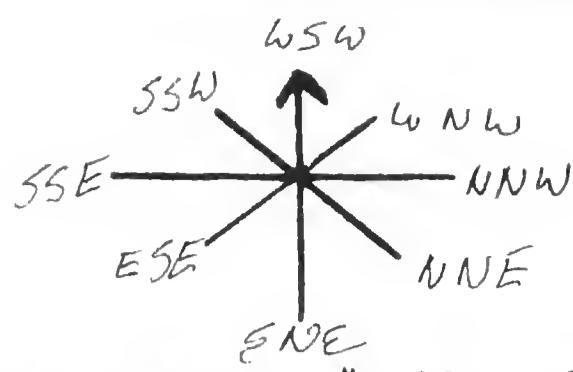


DATE 3 August 1964.  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
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0850	- - -	-	-	-	-	- LV Pier 39
0900	- - -	-	-	-	-	- LV. HONO HARBOR
1012	Common NODDY	2	WNW	low		
1015	" "	1	WNW	low		
1016	" "	1	"	"		
1043	Wedge-tailed Shearwater	1	NNW	"		
1045	Com. Noddy	1	—	on H <sub>2</sub> O		9:20
1048	Wedge-tail	1	NNW			10A
1049	"	2	NNW			
1052	Bulwer's P.	1	NNW			
1105	Common Noddy	1	SE	low		
1123	Bulwers	1	NE	low		
1123	Bulwers	1	SE	low		
1124	Common Noddy	1	SE	low		
1132	Bulwers	1	SE	low		
1135	"	1	SE	low		
1145	Gr. Frig. Bird	1	SE	150'		
1155	wedgetail	1	NNE	low		
1230	Common Noddy	1	S			
1255	Wedge-tail	1	NNE	10'		
1335	Bulwers Pet.	1	NNW	"		
1337	wedgetail	1	NNW	"		
1348	Bulwers Pet.	1	SSE	To 30' To 10'	- Gliding flight - very little flapping	
1354	Wedge-tail	1	ENE	To 60'		
1355	Bulwers	1	WSW	low		
1402	WEDGETAIL	1	ENE	"		
1405	"	1	ENE	"		
1405	"	2	ENE	"		
1406	"	1	ENE	"		
1406	"	1	ENE	"		
1407	Bulwers	1	SSE	"		
1410	Bulwer's	1	ENE	"		
1415	<del>Shearwater</del>	1	ENE	low		
1419	Wedge-tails.	1	ENE	low		
1428	Tropicbird	1	—	on H <sub>2</sub> O		
1428	Shear-Water	1	ENE	low		
1435	WedgeTail	1	NNW	low		
1440	WedgeTail	1	SSE	low		
1446	Wedge-tail	1	ENE	low		
1449	Bulwer's Pet	1	Z	low		
1500	wedgetail Sh.	7	ENE	low	Flying in a group - 2 to port 5 starboard	
1520	Neopuff Sh.	1	NE	low		
1521	Wedge-tail	1	SSE	low		
1521	Wedge-tail	1	SSE	low		
1527	Wedge-tail	1	NNW	low		

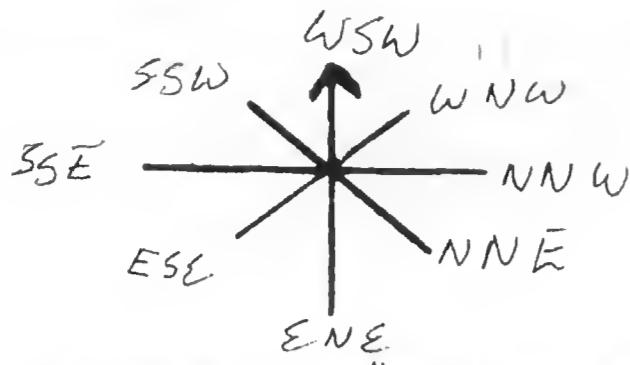


DATE 3 August 1964  
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
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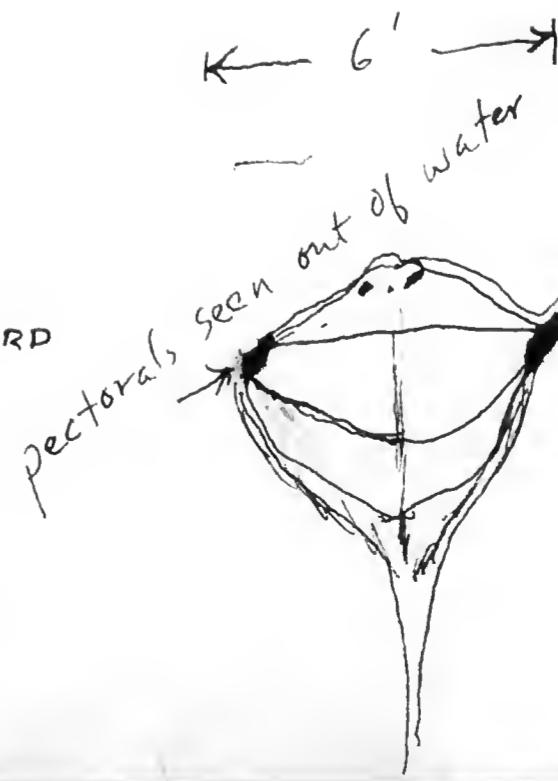
1530	Wedge-tail Sh.	2	ESE	Low		
1530	Newell's Shear.	1	SSE	Low		
1538	Wedge-tail Sh.	1	NE	Low		
1538	Wedge-tail Sh.	1	NE	Low		
1543	Wedge-tail Sh.	1	NW	Low		
1543	Wedge-tail Sh.	2	NNW	Low		
1550	Red-T. Tropicbi	1	—	250' - Low	Dove into H <sub>2</sub> O	
1552	Pterodroma	1	NW	Low		
1557	Wedge-tail	1	SSE	100'		
1609	Newells	1	NE	low		
1615	Wedge-tail	1	NNW	low		
1617	"	1	E	low		
1618	"	1	NE	low		
1618	"	1	NE	low		
1618	"	1	NE	low		
1626	Newells	1	NE	to 20'		
1630	Bulwer's	1	SSE	Low		
1635	Wedge-tail	1	ENE	low		
1655	"	1	G	low		
1656	Shear-Pet	1	NE	low		
1705	Newell's Sh.	1	NE	low		
1710	Shear-Pet	1	W	low		
1730	Wedge-tail	1	②	"		
1736	"	1	ENE	"		
1738	"	1	NE	"		
1748	"	1	WSW?	"		
1748	"	1	SSE?	"	{ much zigzagging	
1750	"	1	NE	"		
1752	"	1	ENE	"		
1753	"	1	NN	"		
1759	Noddy	1	NE	20'		
1802	Newells	1	E	to 20'	flying high as observed previously	
1808	Wedge-tail	1	NE	low	only after dark —	
1809	"	1	NE	"		
1812	"	1	NE	"		
1813	"	1	NE	"		
1815	"	1	NE	"		
1822	Shear-Pet	1	SSE	"		
1822	"	1	NNW	"		
1829	Wedge-tail	1	NE	"		
1833	Newells	1	NE	"		
1835	Wedge-tail	2	W	"		
1839	"	1	②	"		
1841	Newell's	1	NE	"		
1843	Wedge-tail	1	W	"		
1852	"	2	↑	"	keeping pace with ship	
1912	White-tail Tropic	1	NE	75'		
1912	"	1	NE	75'		
2200						

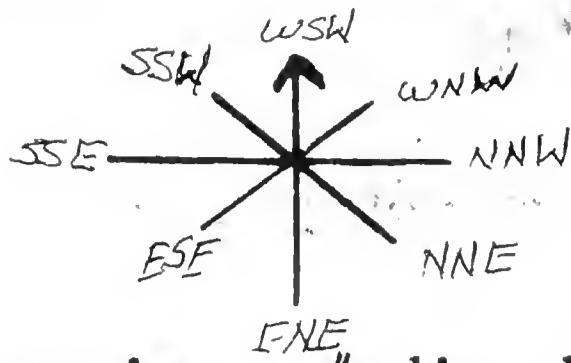
Sunset ~ 1915 → OCCASIONAL SOOTY TERNS CALLING



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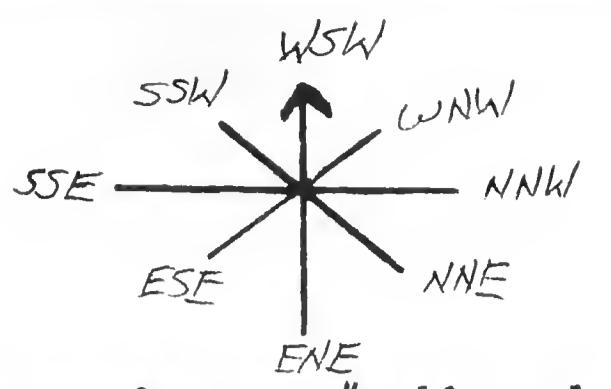
time	species	#	dir.	hgt.	remarks	loc.
ca 0505X					begin observations	
0520					Sunrise	
0532	Wedgetail	1	ENE	low		
0544	Bonin Petrel	1	NNW	low		
0544	Sooty Tern	1	NNW	20'		
0547	Wedgetail	2	NNW	to 20'		
0554	"	1	NNW	low		
0609	Pterodroma	1	SW	to 20'		
0610	Sooty Tern	2	SW	low		
0610	Wedgetail	1	N	low		
0611	Sooty Tern	2	S	to 30'	Ad. + imm.	
0617	Wedgetail	2	E	low	light + intermediate dark phase	
0618	Pterodroma	1	SSE	to 20'		
0624	Sooty Tern	2	NNW	to 20'	dark phase wedgetail with them - prob. 0617	
0645	Wedgetail	1	NNW	low		
0659	Wedge tail	2	E	low		
0659	Wedgetail	2	E	low		
0659	Sooty Tern	1	E	100 ft.		
0700	Sooty Tern	2	E	low		
0703	Sooty Tern	2	NNW	low		
0703	"	1	NNW	low		
0712	Wedgetail	1	N	low		
0713	Wedgetail	1	N	low		
0720	<del>Red foot</del>					
	Sooty Tern	90 ± 20			Not observed actively feeding; some birds	
	Fairy Tern	2			sitting on water. One large school	
	Frigate	21			of flying fish running ahead of flock	
	Wedgetail	300 ± 50			3 Wedgetails collected.	
	Newell's	1				
	Booby	1			Red foot or Marked	
0810						
0820	Wedgetail	1	NNE	low		
0828	Newell's Sh	1	WSW	Low		
0835	Wedgetail	1	NNW	Low		
0848	Wedgetail	1	NNE	Low		
0850	Wedgetail	2	SSE	Low		
0851	Bonin Islet	1	WSW	Low		
0904	Wedgetail	1	ENE	low		
0905	Fairy Tern	1	ESE	40'		
0916	Sooty Tern	1	WSW	30'		
0918	Sooty Tern	1	WSW	30'		
<del>0918</del>	Grey-backed Tern	1	WSW	30'	<del>sooty</del> immature	
0923	R-T Tropic b	1	ENE	75'		
0930	RAY	-	-	-	AT SURFACE off STARBOARD	
0931	Wedgetail	1	ENE	low		
0937	Wedgetail	2	?	low	feeding; <del>Red foot</del>	
0959						
<del>0959</del>	SHEAR-Pet	1	NNW	"		
1002	Wedgetail Sh.	2	NW	low		
1002	Wedge Tern Sh.	1	NNW	low		





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Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1025	Wedgetail Sh.	1	ESE	Low		
1030	Wedgetail	1	NNW	"		
1039	"	1	"	"		
1050	-	-	-	-	SHIP STOPPED TO REGAIN AIR PRESSURE	
1106	SOOTY TERN	1	E	"		
1115	Wedgetail Sh.	1	NE	"		
1145	Wedgetail	3	SW	TO 10'		
1148	"	1	NE	Low		
1152	"	1	NE	"		
1210	"	1	NE	"		
1225		3	NE	"		
1240	Wedgetail	1	E	low		
1300	Sooty Tern	1	ENE	50'		
1308	Wedgetail	1	ENE	low		
Flock 1320	<del>████████</del>					
	Sooty Tern	35±5				
	Fairy Tern	3±1				
	Shear-Pet	5±1				
	Frigate bird	1				
1333	Wedgetail	2	ENE	to 10'	one dark phase	
1350	Red Tail Tropic	1	ENE	100'		
1351	Wedgetail	1	NNW	low	⊗	
Flock 1402	<del>████████</del>	19	ENE		Not feeding	
	Sooty Tern	15±1				
	Wedgetail	6				
	Pterodroma	2				
1405	Wedgetail	1	NE	to 20'		
1425	Bulwer's Pet	1	SSE	low		
Flock 1440	Frigate bird	10±2				
	Sooty Tern	100±10				
	Wedgetail	200±50				
1525	Newell's Sh	1	NNW	low		
1532	Wedgetail	1	NNW	low		
1535	Wedgetail	4	NNW	low		
1537	Bonin's Pet	1	NNW	low		
1615	SHEAR-PET.	2	NNE	low		
1620	" "	1	-	-		
1620	- -	-	-	-		
1622	Wedgetail	2	ESE	low		
1630	Wedgetail	3	ESE	"		
1632	Wedgetail	1	ESE	"		
Flock 1645	TERNS	45±10				
	FRIGATE	3				
	BONIN	1				
	Wedgetail	40±10				
1700	<del>Bulwers</del>	1			→ WHALE	
1702	BONIN	1	NNW	TO 30'		

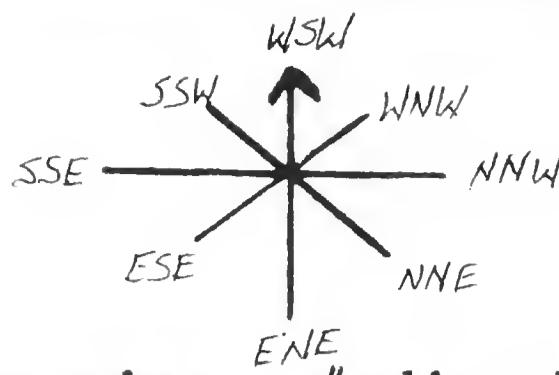


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Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
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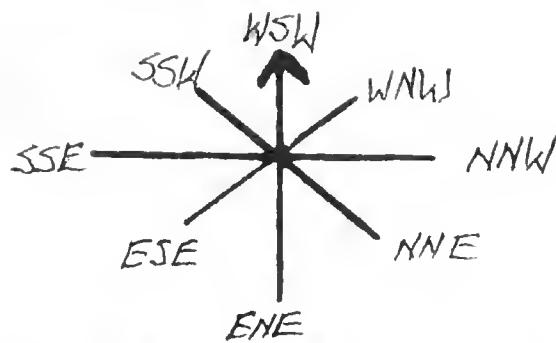
1708	FRIGATE	1	ENE	TO 30'	- Apparently feeding - frequent dives	
1717	Wedge-tail	1	ENE	low		
1717	"	1	"	"		
1720	Dark-rumped Petrel.	1	{	low		
1721	Wedge-Tail	3	{	low	- loose group.	
1732	Wedge-tail	1	ENE	low		
1755	WEDGETAIL	1	ESE	"		
1807	WEDGE-TAIL	1	ENE	"		
1811	WEDGE-TAIL	1	ENE	"		
1815	WEDGE-TAIL	1	NNW	"		
1816	WEDGE-TAIL	2	WSW	"		
1819	WEDGE-TAIL	1	ESE	"		
1822	WEDGE-TAIL	1	NNE	"		
1829	WEDGE-TAIL	3	⑥	"		
1830	— — —				APPARENT SUNSET!	

19



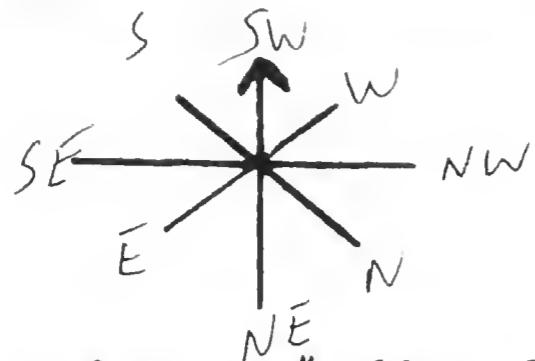
DATE 5 AUG 64  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0520					commence OBSERVATIONS - SUNRISE	
0530						
0531	NEWELL'S	1	SSE	low		
0552	Wh. T. Tropic	1	(6)	70'	- calling - raspy "GECK"	
0613	Bonin's Island	1	SSE	low		
0623	"	1	"	"		
Feeding Flock	0630	SOOTY TERN Wedgetail Bulwer's	3 2 1	SSE	to 30'	Birds diving over schools of small flying fish. Larger fish near surface in large school.
	0644	pterodroma	1	NNW	low	
	0644	Wedgetail	1	ENE	"	
	0651	"	1	ESE	"	
Flock	0700	Sooty TERN Wedgetail Bonin	14 15±5 12±2	NNW	70-10'	- 1 orange leg RIBBON Flock <u>very</u> LOOSE AND NOT FEEDING. MOVING RAPIDLY!
	0725	WEDGETAIL	2	ENE	low	
	0747	PTERODROMA	2	NNW	low	
	0757	PTERODROMA	1	SSE	"	
	0758	WEDGETAIL	1	SSE	"	
	0808	Wedgetail	1	NW	"	
	0812	Sooty Tern	1	ESE	"	
	0814	White-tailed tropic	1	SSW	low	came high, left low with tail between his legs
	0828	Dark. Petrel	1	NNW	low	
	0842	Gray-back Tern	1	ENE	low	
ptero	0842		1			8'-10' - whale.
	0855	Bonin I. Petrel	1	NNW	low	
	0900	Wedgetail	1	S	low	
	0907	"	1	NNW	low	
	0909	Pterodroma	1	NNW	low	
	0909	Wh. Tropic	1	N	50'	
	0915	Wedgetail	1	SSW	low	
	0930	Sooty Tern	1	NNW	25'	
	0930	Wedgetail	1	NNW	low	
	0937	Wh. Tropic	1	Q	50'	
ptero	0937	Wedgetail	1	NNW	low	
	0955	"	1	CNE	low	
	0958	Pterodroma	1	SSE	low	
	1026	Pterodroma (Bonin Is. P.)	1	NNW	to 10'	not Bonin Is. Petrel. white below dark above, smaller than wedgetail, Flight - high arching - 500 yds out
	1050	Wedgetail	1	NNW	to 10'	
	1132	Wedgetail ISH	1	SSE	low	
	1138	Dark-rump? Petrel	1	NNW	low	
	1140	Wedgetail	1	NNW	low	
	1157	Wedgetail	1	NNW	low	
	1200	Bonin Is Pet	1	NNW	low	
ptero	1201	Bulwer's Pet	1	NNW	low	feeding - on H <sub>2</sub> O for few seconds.
	85		SSW	low		



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time	species	#	dir.	hgt.	remarks	loc.
12 21	WEDGETAIL	1	NNW	Low		
12 29	SHEAR - PET.	1	SSE	"		
12 44	WEDGETAIL	1	WSW	"		
13 16	SHEAR - Pet.	1	SSE	"		
13 20	Red-t. TROPIC	1	ESE	TO 80'	- sitting on H <sub>2</sub> O. ship slowed to ~1/2 speed.	
13 30						
13 57	WEDGETAIL	2	NNE	Low		
13 59	WEDGETAIL	1	SSE	"		
14 25	Dark t. Petrel	1	E	Low	white neck not seen, back more like wh. neck.	
14 31	White neck Pet	1	SSE	Low	not arching - flying more like shearwater	
14 45	B.F. Booby	1	N	Low	Subadult	
15 30	W.T. Tropic	1	②	80'	circling ship; returned (?) 1540, circling	
15 32	R.T. Tropic	1	②	80'	" " for 5 min; W.T. left	
16 24	Bonin's Petrel	1	SSW	Low		
16 47	Fairy Tern.	1	ENE	70'		
16 55	Pterodroma	1	NNW	Low	Large (Wedgetail size) brownish back whitish head. light brownish underneath with white good Dark - rump except for darkish underneath. Wedgetail flight. possibly immature D-rump.	
18 08	Wedgetail	1	ENE	Low		
<del>18 17</del>	Close out		watch			
18 43						



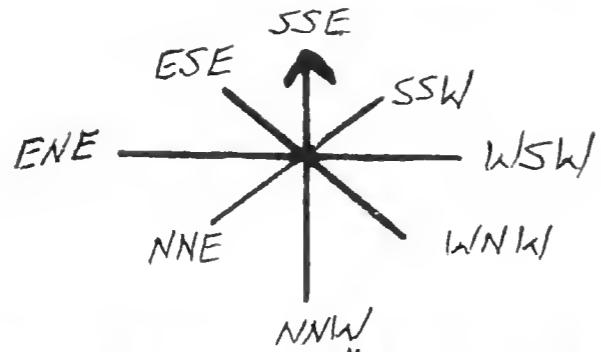
DATE 6 August 1964  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0530					Begin observations.	
0537	Shear-Petrel	1	S	low		
0555	Bulwer's Petrel	1	NW	low		
0555						
0600	White-necked Petrel	2	NW	low	sun appears to be up - behind land banks	
0613	Pterodroma	1	SE	low		
0613	Pterodroma	1	SE	low	→ 1st Bonin Is.	
0616	White-necked	1	{	low		
0645	Red-Tail Tropic	1	SE	low		
0646	Wedgetail Shear	1	NW	low	1st on H <sub>2</sub> O flushed by ship.	
0654	Sooty Tern	5	N	low		
0656	Sooty Tern	5	N	low		
0656	Sooty Tern	1	X	low		
0658	Sooty Tern	1	NNW	low		
0659	Sooty Tern	2	NE	low		
0702	Sooty Tern	4	N	low	one with orange streamer	
0713	Shear-Petrel	1	NW	low		
0714	Wedgetail	1	SE	low	- dark phase	
0714	Pterodroma	1	SE	low		
0715	Sooty Tern	6	NE	low		
0718	Sooty Tern	1	E	low	→ 40'	
0720	Sooty Tern	4	E	low		
0720	Sooty Tern	3	NW	low		
0721	Sooty Tern	7	NW	100'		
0724	Wedgetail Sh.	1	NW	low		
0731	Wedgetail Sh.	1	NE	low		
0733	Sooty tern	1	NW	low		
0735	Sooty tern	1	NW	"		
0735	Red-f Booby	1	NNE	low	- sub-adult	
0736	Sooty Tern	1	N	low		
0743	Sooty tern	3	NE	low	→ 2 HIGH	
0743	Wedgetail Sh.	1	NE	low		
0756	Wedgetail Sh.	1	NNE	low		
0811	SOOTY TERN	5	SE	low		
Flock	0835	SOOTY TERN WEDGE-TAIL	18	↔	low	Not FEEDING
			4			23 25 150 199
Flock	0845	SOOTY TERN	25±5	SE	low	NOT FEEDING
Flock	0850	SOOTY TERN	150±25	NE		Not feeding - flock - J.B. IN SIGHT
	0851	WEDGE-TAIL	4	SE		
	0851	SOOTY TERN	10	SE		
	0854	WEDGE-TAIL	2	NE		
	0854	SOOTY TERN	2	NE		
	0855	" "	1	N		



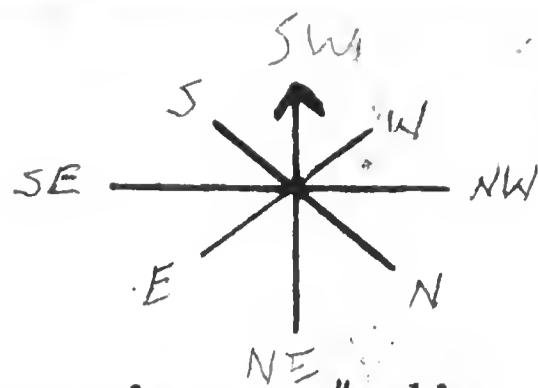
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Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
0856	WEDGE-TAIL	1	SE	low		
0901	SOOTY TERN	1	NE	40'		
0902	" "	1	"	low		
0902	" "	3	"	"		
0903	WEDGE-TAIL	1	SE	"		
0903	SOOTY TERN	2	N	"		
0904	" "	1	SE	"		
0905	WEDGE-TAIL	1	E	"		
0905	"	1	E	"		
0913	SOOTY TERN	3	NE	"		
0914	<del>Pterodroma</del>	1	N	"		
0919	WEDGE-TAIL	1	NE	"		
0922	FRIGATE	1	(6)	90'		
0924	SOOTY TERN	1	N	low		
0924	" "	1	E	40'		
0924	" "	1	N	low		
0926	WEDGE-TAIL	1	NE	40'		
0928	SOOTY TERN	1	--	--	- ORANGE LEG RIBBON	
0929	" "	3	--	--		
0929	FRIGATE	2	E		- FEMALES	
0930	SOOTY TERN	2	SW	30'		
0930	" "	1	W	"		
0931	" "	4	W	low		
0933	FRIGATES	1	(6)	100'		
0933	SOOTY TERN	5	NE	--		
0933	" "	3	SE	30'	- ORANGE LEG RIBBON	
0935	SOOTY TERN	2	NE	35'		
0936	" "	2	SE	--		
0939	" "	1	SE	--		
0954	" "	4	SE	30'		
0955	" "	1	"	"		
0956	" "	4	"	"		
0958	" "	4	"	low		
1003	" "	1	"	"		
1004	WEDGE-TAIL	2	SSE	"		
1006	"	1	NE	"		
1010	Booby	1	NE	"	orange streamer	
1021	SOOTY TERN	5	S	30'	Imm. RF? distant, dark above, light below change course to SSE - <i>lethal card</i>	
1022	Wedge-tail	2	N	low		
1030	"	1	SE	"		
FB31	"	1	WNW	"		
1108	"	1	NW	"		
1117	DARK FUMPP. (?)	1	NNE	to 20'	very pale back with trace of dark "W"	
1121	Shear-Pet	1	NE	low		
1-1 1324	Red-foot Booby	1	SSE	50'	- immature - collected.	
9-9 1520	Pterodroma	1	ENE	low	dk lead. & trailing edge undersurface, won back, under body light. upper body Brown. Non Pecking flight.	



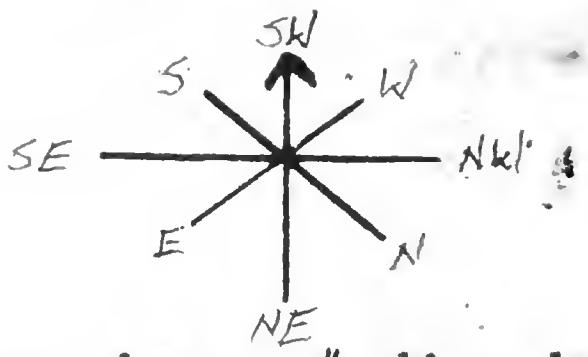
DATE 6 AUG 64  
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time	species	#	dir.	hgt.	remarks	loc.
1559	Pterodroma	1	SSE	low	whitish rump, gray back; underwing not clearly seen; fast flight; molting Bonin Is?	
1604	Sooty Tern	9	NNW	low		
1604	" "	1	ENE	20'		
1648	wedge tail/ wedge tail	2	NW	low		
1703	wedge tail/ wedge tail	1	ENE	low		
1724	Pterodroma	1	SSE	low		
1726	"	1	"	"		
1727	Sooty tern	4	WSW	"		
1728	Pterodroma	1	WSW	"		
1747	Shear - Pet	1	SSE	"		
1752	Wh. Neck Pet(?)	1	SE	low	whitish rump + neck, dark uniform back, slow	
1757	Pterodroma	1	S	"	floppy flight	
1809	"	1	N ↔ S	"	white neck + possibly white head back & forth	
1805	—	—	—	—	SUNSET GREENISH,	
2252	—	—	—	—	LARGE, FLAMING OBJECT FALLING IN ATMOSPHERE WEST TO NW OF SHIP'S POSITION. EMITTING BURSTS OF LIGHT SIMILAR TO LIGHTNING. DISTANCE UNDETERMINABLE. DISAPPEARED BELOW HORIZON - VISIBLE FOR APPROXIMATELY 3 SECONDS	



DATE 7 August 1964  
Pg. # 1

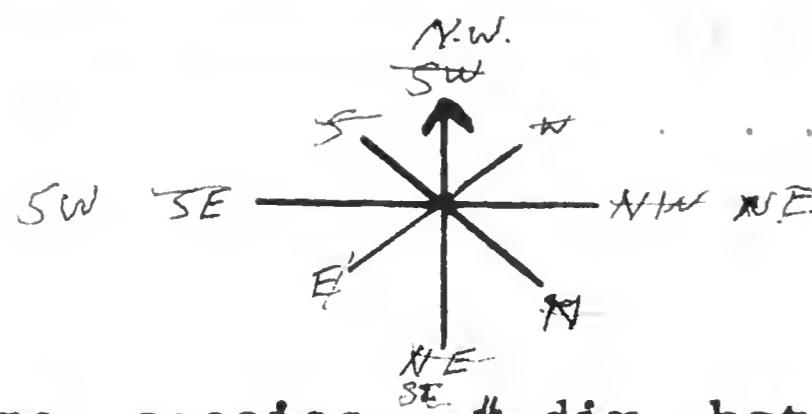
time	species	#	dir.	hgt.	remarks	loc.
0101	Bird	1	NW	55'		
0100					change course to SW.	
0207	Bird	1	E	50'		
0545	Shear - Petrel	1	NE	low		
0605	Fairy Tern	1	NE	50'	Having trouble making heading into the wind	
0610	Pterodroma	1	NE	to 30'	White undertail coverts, larger than wedge-tail!	
0600					sunrise	
0620					stop for morning station	
0634	Audubon's (?) Shearwater	1	SE	low, to 30'	Newell's pattern but not flight; could not see tail or breast band; very fast flapping with no gliding around ship, then long wedge-tail-like accs	
0650	Pterodroma	1	NW	to 25'		
0725					underway	
0725	W.N. Petrel	1	NNW	to 20'		
0843	<del>4-T</del> Tropic	1	NE	80'		
0847	Pterodroma	1	NW	low		
0855	Sooty Tern	1	NNW	low	Feeding	
0928	Fairy Tern	1	WNSE	low		
1058	Bonin Is Pet	1	NW	low	Feeding	
1117	Red-Tail Tropicbird	1	-	H2O		
1250	Tropicbird	1	E	75'	distant	
1255	Dark Rump Pet	1	SE	to 40'	slow, "floating" flight, mottled pattern above	
1305	Pterodroma	1	N	low	appeared same as above but distant	
1307	Dark Rump P.	1	NE	to 30'	same	
1308	" "	1	S	to 30'	was sitting on H2O in front of ship; same as preceding - light strip across rump, dark wing tips, pale leading edge, upper back & neck but not with a white collar.	
1323	Christmas Is	1	SE	low		
1323	Wedge-tail	1	SE	low		
1325	Dark Rump	1	SE	to 20'		
1325	" "	1	SE	low		
1325	" "	1	?	low		
1330	<del>PA</del> Dark Rump P.	1	E	to 20'	distant, then close	
1342	" " "	1	N	low		
1345	Sooty Tern	1	ENE	30'	Immature	
ca 1405	<del>W.H. Petrel</del> PTERODROMA	1	-	-	collected - wh.-nk?	
1410	Pterodroma	1	-	to 40'		
1425	"	1	SE	to 30'	PROBABLY DK.-rump Pet.	
1444	CHRISTMAS Is.	3	SE	0 to 30'		
1447	Pterodroma	1	Nkl	to 40'	sitting on H2O	
1453	Wh.-nk Petrel	1	SE	low	DK.-rump or wh.-nk.	
1520	DK-Rump Pet.	1	NW	30 to 60'	fighted in H2O	
1524	christmas Is.	1	SE	low		
1524	Pterodroma	1	Wsk!	low		



DATE 7 AUG 64  
Pg. # 2

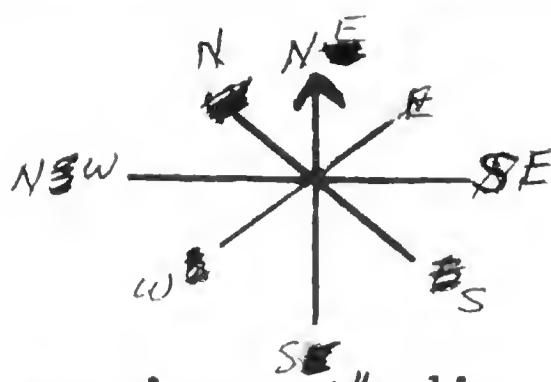
time	species	#	dir.	hgt.	remarks	loc.
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1537	HARBOURS S.P. <del>WLT</del>	1	S	low	sitting on H <sub>2</sub> O - FLUSHED BY SHIP.	
1554	<del>TROPIC</del>	1	ENE	80'		
1624	Pterodroma	1	SE	low	not Bonin Is	
1630	Bonin Is Pet	1	SE	low		
1641	W-n Petrel	1	NE	low		
1703	Newell's Shear	1	SE	low		
1717	R-T. TROPIC	1	NE	70'		
1717	--	--	--	--	BIRD SEEN WHILE WATCHING TROPICBIRD - IN DISTANCE AND DARK - FLYING SIMILARLY TO SKUAS SEEN PREVIOUS MONTHS. TOO DISTANT FOR ACCURATE OBSERVATION!	
1812	R-T. TROPIC	1	NW	80'		
1825	Wedgetail	1	N	low		
1845					Sunset	
1849	Wedgetail	1	2	low		
1935	Shear-Pet	1		low		
1945						
2010					dark squall	
2000	Boobie	2	20 to 30			



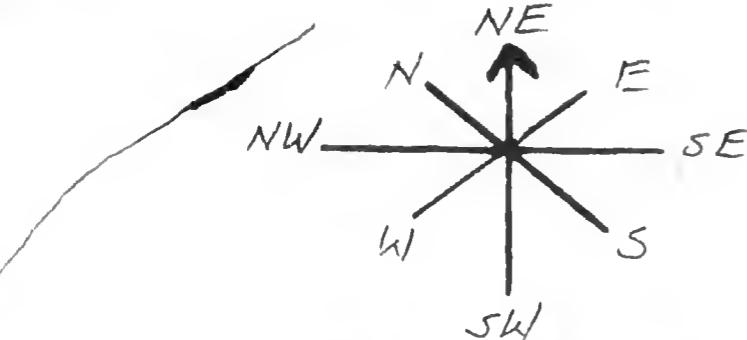
DATE August 7, 1964  
Pg. # Last 3

time	species	#	dir.	hgt.	remarks	loc.
2203						
2210	Fairy Tern	1	East	75 to 100'	Flying	
2222	<del>Pterodroma</del>	1	SE	Low	Running	
2300	BIRD	1	NW	75'	hopped over boat. No idea as to species. Not in	
2340	BIRD	1	NW	100'+	light colored } the light so only showed up as undifferentiated. Possibly } A shadow against the sky. (Ghost?) an adult Sooty Tern by the way it flew.	
2350	BIRD	1	SW	100'	The light bottom shadow	
2358	White-tail Tropic	1	SE	100'	Dipped within light. Bow to starboard	



DATE August 8, 1964  
Pg. # 1 (cont)

time	species	w#	dir.	hgt.	remarks	loc.
0008	Bird	1	SE	75'	Large, white possibly tropic bird	
0031	Tropic Bird	1	?	75'	Circled ship once at height of crow's nest.	
0040	White Bird	1	SE	75'	Possibly tropic bird	
0130	Bird	1	SE	20'	Possibly a tern	
0137	Bird	1	SE	20'	Same as above - straight but not rapid flight, seems	
0205	Bird	1	SE	50'	to have some white	
					Same as above	
0230					change course NE	
0526	Bird	1	NE	low		
0532	Shear-Pet	3	NE	low		
CA 0615					SUNRISE (heavy cloud cover)	
0620					STOP FOR PLANKTON SAMPLE	
0642	R.-T. TROPIC	1	N	80'		
0654	WHITE-NECK PETREL	1	N	low		
0710			S	"	DEFINITE IDENTIFICATION	
0716	SHEAR-PET.	1	S	"	UNDERWAY FULL SPEED	
0730	" "	1	SE	"		
0800	" "	5	"	"		
0809	WHITE-NK. PETREL	1	NW	low	DEFINITE	
0828	" " "	1	W	to 40'		
0930	" " "	2	NW	to 30'		
0848	Shear-Pet	1	NW	low		
0900	Dark Rump	1	NNW	low		
0910	Shear-Pet	1	NNW	to 20'		
0916	White Neck	1	W	to 30'		
0912	" "	1	W	low		
0916	" "	1	W	to 30'		
0950	Wedgetail	2	S	low	Dark phase	
1011	Wh-neck	1	SW	low		
1024	Pterodroma	1	S	low		
1050	Dark Rumped Petrel	2	NW	to 20'	not Bonin Is	
1103	Pterodroma	2	SW	to 20'		
1107	Shearwater	1	SE	low	Possibly Dark phase wedgetail but flapping	
1121	WN Petrel	1	E	20'	quite a bit like typical Shear	
1127	Wedgetail	1	NW	0'	Sitting on water	
1127	Dark Rumped	1	NW	20'		
1127	Shearwater Petrel	1	NW	to 20'		
1134	Wh Neck	1	NE	low		
1140	Dark-rump	1	SW	low		
1143	Pterodroma	1	S	low	- not Bonin Is	
1148	Pterodroma	1	SW	(low)		
1207	PTERODROMA	1	SE	"		
1213	Wh-NK Pet.	1	SW	"		



DATE 8 August 1964  
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1255	Shear-Pet	1	NW	low		
1353	"	2	SE	"		
1420	Wedgetail	1	S	-	all around ship	
1425	Pterodroma	1	N	"		
1630	Sooty Tern	8	W	0-30'	Flying very fast in no particular direction at least one was a subadult	
1640	Sooty Tern	6	NE	low	at least 1 immature with orange streamer	
1742	Fairy Tern	1	NE	1000		
1745	Shearwater	1	SE	1000		
1840	<del>Pterodroma</del>	1	SE	low	could have been dark phase Wedgetail first flying like typical stan.	
1857					SUNSET	

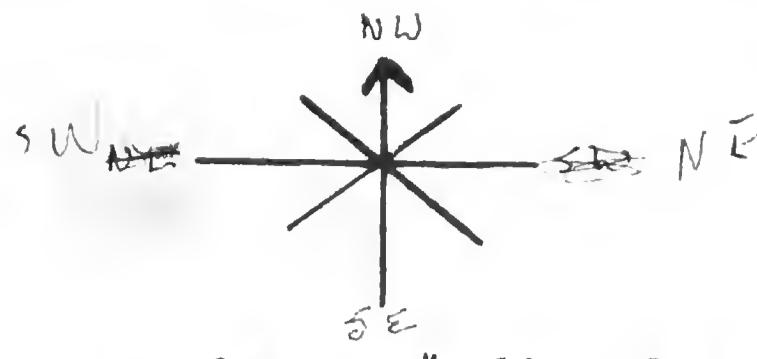
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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5
6	7	8	9	10	11	12



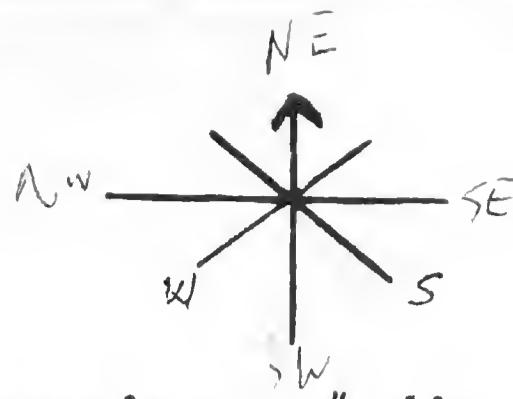
DATE 9 August 1964  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0400					Change course from NE to NW	
0410					Sunrise,	
0600						
0704	Wedge-tail Sh.	1	WNW	low		
0758	Pterodroma	1	SE	low	not Bonin Is	
0807	Kermadec P(?)	1	S	to 20'	dark back, wings (above + below), + head + throat; white breast + abdomen; white at bases of primaries on upper wing, white patch toward tips on lower. Chunky. Flight halfway between Pterodroma + Wedgetail	
0835	Shear-Pet	1	SE	low		
1046					Change course from NW to SW	
1050	Shear-Pet	1	SE	to 20'		
1104	Wedge-tail	1	SW			
1121	R.-T-Tropic	1	SE	50'	Sitting on water - SUB-ADULT	
1203	Sooty Tern	1	NE	50'		
1224	Fairy Tern	1	NNW	30'		
1235	Shearwater	1	ESE	low	Wedge-tail size all brown flew in straight line flapping and gliding. not blacks enough to be Xmas Is and not flapping fast enough. -- 3 adults 1 immature	
1306	Sooty Tern	4	E	60'		
1335	Dark-rump Petrel	1	NE	low		
1433	Sooty Tern	3	SE	to 30'	feeding	
1651	W.N. Petrel	1	SE		light phase	
1658	Pink-footed Shear (2)	1	NW	to 10'	wedge-tail except for low straight-line	
1700	Wedge-tail	1	S	low	flight, steady flapping, no banking.	
1744	R.-T. TROPIC	1	NE	80'		
1845					Sunset	
1950	Bird	1	NE	70'		
2010	R-Tropic bird	1	NE	50'		
2210	Tropic bird	1	(O)	60'		
2226	"	1	NE	45'		
2235	Fairy tern	1	SW	50'		
2305	"	1	SE	45'		
2310	"	1	SE	50'	(same bird)	
2350	Bird	1	NE	40'		



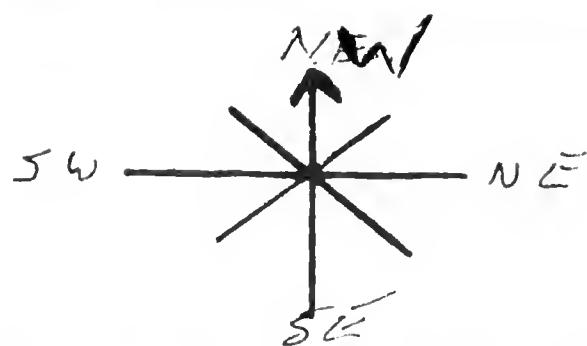
DATE August 10  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0022	Fairy Tern	1	NNW	80'	Circled about 10-20' above RADAR ANTENNA 2 times	
0027	Tropic Bird	1	NE	50'	could not distinguish which species	
0130	BIRD	1	ZZS	Low	Went in N direction on starboard side of ship then turned & followed on port side & then disappeared most probably was a TERN	
0200	Sooty Tern	1	East	50'	Flew just port side of the bridge. Shrieked once over the bridge & once out farther	
0604	TROPICBIRD	1	ESE	80'	- STOP FOR MORNING STATION Sunrise?	
0617	--	--	--	--		STOP FOR MORNING STATION Sunrise?
0625	R.T. Tropicbird	1	NE	30'		STOP FOR MORNING STATION Sunrise?
0643	Pterodroma	1	SSW	low		
0700					Underway, course now NW	
0755	Pterodroma	1	SW	low		
0802	Shear-Pet	1	SW	low	Distant. Appeared all dark, loose flapping and short glides, in straight line, horizontal	
0805	White Neck Pet.	1	S	low	<del>Wedge-tail</del> sitting on water far out.	
0815	Wedge-tail	2	SW	low		
0830	Wedge-tail	1	S	low	2 darker phase	
0850	Bonin Is Petrel	1	NNE	low		
0852	Shear-Petrel	1	NE	low		
0903	Bonin I Petrel	1	NE	low		
0907	Wedge-tail	1	N	"		
0915	"	1	NNW	"		
0920	Shear-Pet	1	NE	"		
0926	Wedge-tail	2	S	low	- dark phase	
0932	D-J Petrel	1	NW	low		
1030	Pterodroma	1	NE	low		
1053	Wedge-tail sh.	1	SW	low		
1055	White-necked Pet.	1	NE	low		
1107	White-necked Pet.	1	NE	low		
1140					course change - heading NE	
1217	Wedge-tail	1	NE	low	+ dark phase	
1330	Wedge-tail	2	NE	low	dark phase	
1330	Pterodroma	2	NE	low		
1340	W.N. Petrel	1	NE	low		
1402	Wedge-tail	2	NE	low	sitting on the water	
1415	W-N Petrel	1	sitting on H2O	low	Dark Phase	
1457	"	1	NE	low		
1458	wedge-tail	1	NE	low	Dark phase	



DATE Aug 10  
Pg. # 2

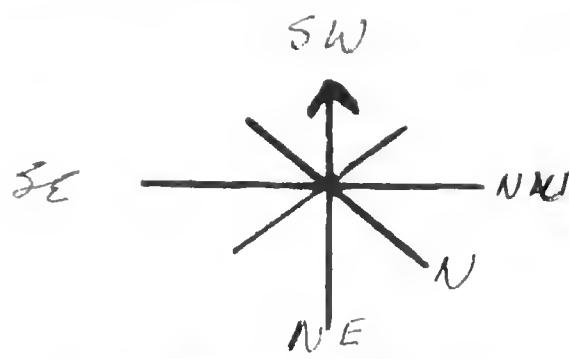
time	species	#	dir.	hgt.	remarks	loc.
1505	Pterodroma	1	NE	low	Wind velocity very low today; all birds must flap occasionally or often.	
1522	Wedgetail	1	ESE	"		
1609	SOOTY TERN	1	SW	70'		
1625	Wh.-Neck Pet.	1	NE	low		
1635	<del>SHEAR PET.</del> Wh.-Neck Pet.	1	NE	"	- sitting on H <sub>2</sub> O at 1637 - flushed by ship	
1640	WEDGE-TAIL	2	WWS	"		
1645	W.N. PETREL	1	SE	"		
1645	SKUA	1	S	50'	No DOUBTS! flew at 50' for considerable distance Then low OVER WATER.	
Flock	1650	SOOTY TERN WEDGE-TAIL W.N. PETREL	25+3 8 4	NE E N		1 - Red-ORANGE TAGGED imm SOOTY TERN (PROBABLY MORE imm in flock)
1650	W.-T. TROPIC	1	S			
1709	R.-T TROPIC	1	S			
1727	Kermadec Pet	1	S	TO 90'		
2135	Tropic bird	1	SSW	low		
2230	Tropicbird	3	WNW	70'		
2340	RT Tropicbird	5	O	70' 60'	circling and following ship <del>same</del> same of 2230 birds included.	



DATE August 11, 1964  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0610	Wedge-tail sh.	1	NE	low		
0620					plankton stop	
0653					resume course 045	
0728	Tropic bird	1	S	80'		
0821	Wedge-tail	1	NE	low		
0833	Wedge-tail	1	NE	low		
0833	Kermadec P	1	ESE	low	P.M. identification	
0845	Bonin Is.	1	SW	low	with the wind	
0920					→ change course to NW	
1014	Bonin Petrel	2	SW-SE	low		
1035	" "	1	NW	low		
1036	" "	1	NE	low	joined former briefly	
1045	Wedge-tail	1	SW	low		
1050	<del>Wedge-tail</del>				No feeding observed	
1130	Sooty Tern	90 ± 10	-	-	- 5-6 immature; 1 immature with orange tag	
	Wedge-tail	25 ± 5	-	-		
	Fairy Tern	6	-	-		
	Grey-backed T	1	-	-		
	Bonin Petrel	4 ± 1	-	-	Flock flying // to ship at same speed	
	Wh. N. Petrel	1	-	-	most of time	
	Kermadec	1	-	-		
1214	Pterodroma	1	NW	low		
1234	WEDGE-TAIL	1	NW-DR	low		
1251	BONIN IS.	2	SW	low		
1257	SOOTY TERN	1	SE	70'		
1320	SCOTY. TERN	1	NE	low		
1320	WEDGE-TAIL	1	NE	low		
1331	R.-T. TROPIC	1	NE	"	- FLUSHED FROM WATER BY SHIP - 1337 SEEN ON WATER (PROBABLY SAME BIRD) PROBABLY SAME BIRD AGAIN 1346, low over water going west.	
1350	SHEARWATER - PETREL?	1	SW	low	- All dark bird EXCEPT lower breast + belly which were of a medium gray or dusky-white. Flew like Wedgetail but in straight line. No spots observed in wing-tips, NO arching OR TYPICAL PTERODROMA flight. Thin white-or light stripe IN MID-SURFACE OF UNDERWING seen by A.R. - HERALD'S PETREL?	
1355	WEDGE-TAIL	1	NE	low		
1418	Wedge-tail	1	S	low	ca 1430 sighted another ship	
1430	Bonin Is. Petrel	1	NE	low	1435 - change course SW.	
1438	Sooty Tern	1	NE	low	60'	
1445	Wedge-tail	1	N	low	Seen well by PW & PM. About size	
1450	Bonin Is.	2	NE	low	of Purple Martin black back - white	
1545	Sooty Tern	14	SE	70'	rump - faded tail white underneath	
1547	W-n Petrel	1	SE	low	little gliding easy flight. seen in good	
1548	Shear Pet	1	NW	low	light at 50-100 yds. Definite! The breast wasn't well seen seen well. Flying close to the	

6 Fairy Terns  
4 Bonin Is P.  
80+ Sooty  
30 Wedge tails  
1 Kermetic  
1 Small Grey Petrel  
1 Imm. Sooty w/ Tag  
1 Grey-Back Tern



DATE 11 AUGUST  
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1615	Wedge-tail	1	N-S	100		
1640	Sooty Tern	1	NNE	30'		
1655	Shear-Pet.	1	SW	v. low		
1702	Wedge-tail	2	SE?	low		
1730	Wh-T Tropicbird	1	NNE	25'		
1814	Wedge-tail?	1	NE	low		
Flock	SOOTY TERN	50±	10			
	WEDGE-TAIL	12±	2			
	W.-N. PETREL	2				
	CHRISTMAS IS.	10±2				
1845	WEDGE-TAIL	1	NE	low		
					SONSET	
1918	WEDGE-TAIL	1	NE	low		
1940	- - -	-	-	-	- SOOTY TERNS CALLING 3 or 4	
2011	- - -	-	-	-	- FAIRY TERN OR TROPIC BIRD - NE.	
2055	TROPICBIRD	1	SE	60'		
2043	11					
2320	R.T.-TROPIC	1	NE	60'		
			SE	50'		
0135	Bird	1	NE	low		
0250	TROPIC BIRD	1	NE	50'		
0400	TROPIC BIRD	1	NE	60'		
0530	Wh-N. Petrel	1	SSE	low		
					12 August 1964	

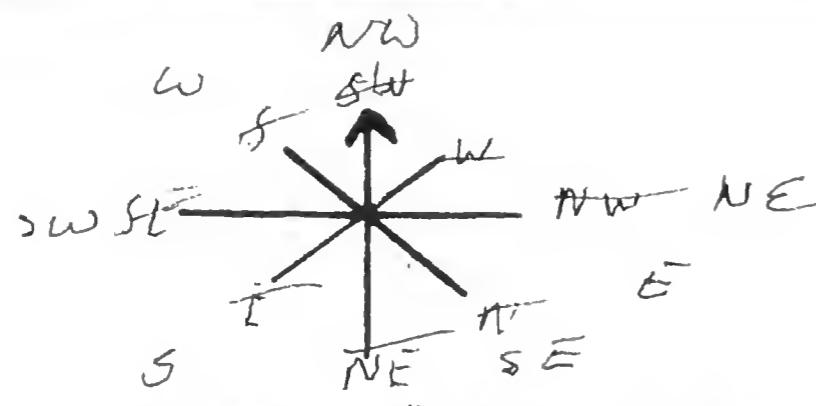
Arg for of Arv

August 12, 1964

Miss Mickey Rae Snow  
Walter Mitty

500 Miles of Hell

There Were Three Brothers in Merry Scotland In Merry



DATE 12 August 1964  
Pg. # 1

time species # dir. hgt. remarks

loc.

0135	Bird	1	NE	low	
0250	Tropicbird	1	SSW	80'	
0400	Tropicbird	1	NE	60'	
0558	W-n Petrel	1	SSE	low	
0615	W-n Petrel	1	NW	low	
0618	Pterodroma	1	SE	low	
0620					
0644	Pterodroma	1	NE	low	From log also starts of morning station not Bonin Is.
0650	Shear-Petrel	1	N	low	
0706	Pterodroma	1	NE	low	
0713	Pterodroma	2	NNW	low	
0720	Shearwater - Petrel	1	E	low	
0720	Shearwater - Petrel	1	W	low	
0725	Wedgetail Sh.	1	SSW	low	
0725					End Morning station.
0745	Shearwater - Petrel	1	NW	low	
0751	Pterodroma	1	S	low	
0753	Wedgetail	1	SE	low	
0810	W.W. Petrel	1	S	to 20'	
0821	Bonin Is. P.	2	S	to 10'	
0822	Bonin Is. P.	2	NW	low	
0825	Bonin Is. P.	1	S	low	
0837	BONIN Is.	1	SE	low	
0847	BONIN Is.	1	NNW	low	
0851	BONIN Is.	1	S	low	
0853	BONIN Is.	1	South	low	
0906	BONIN Is.	1	NW	"	- SITTING ON H <sub>2</sub> O, flushed BY SHIP.
0913	BONIN Is.	1	NW	"	
0923	PTERODROMA	1	NW	"	
0928	BONIN Is.	1	NW	"	
0933	BONIN Is.	1	NW	"	
1033	Pterodroma Bird	1	NW	"	
1047	Bird	1	SE - NW	"	Large, appeared to "have" no black on underswings; KA says W.N. or D.R., R.A. say not even Pters. Flushed by ship.
1055					Looks nearly like White-neck or Dark Rump but flaps constantly, slowly. Large dark spot around eye. Probably same bird as 1033. Faetus? Tern-like rather than gull-like flight. Resembles imm. Franklin's gull.
1123	Bonin I. Pet	1	W	low	change course to NW
1145	Shear-Pet	1	NE	low	
Flock 1250	Sooty Tern	3		60'	- Immature - orange tag Not seen feeding Kermadec Pet
	Kermadec Pet	1			
	Wedge-Tail	1	Q	low	
	Bonin Is.	2			- dark phase
	Pterodroma	6			
1304	Bonin Is Pet	1	SE	low	

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K K L L M N O P Q

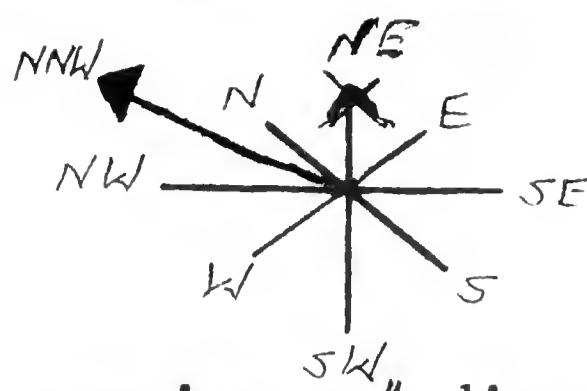
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DATE 12 August 1964  
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
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1304	<del>B</del>					
1433	WEDGE TAIL	1	WW	NW	low	
1452	SHEARWATER - Pet	3	-	O		
1503	W-N. Petrel	1	SE	low		
1503	Bonin Is P?	1	NW	low		
1533	- - -	-	-	-	- COURSE CHANGE TO N.E	
1602	SHEAR. - Pet	1	SE	low		
1608	W-N. Petrel	2	E	"		
1625	Pterodroma	1	~	"		
1628	"	2	NE	"		
1646	Shear - Pet	2	NE	"		
1653	W-N. Petrel	1	E	"		
1657	Christmas Is <del>Island</del>	2	E	"	<del>Island</del>	
1720	Pterodroma	1	SE	low	- not Bonin Is.	
1752	Shear - Pet	1	SE	low		
1754	Kermadec ?	1	SE	low		
1825	Large Pterodroma	1	SW	low		
2135	FAIRY T. OR TROPIC	1	NE	20'		
2358	FAIRY TERN	1	SW	35'		

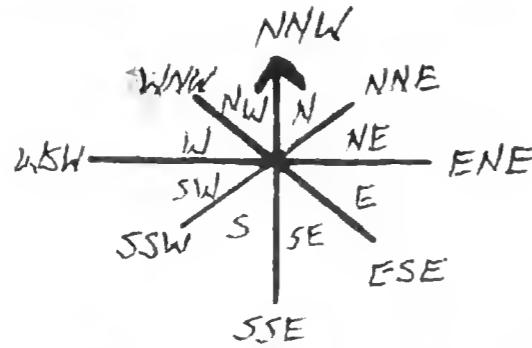


DATE 13 Aug. 64  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0138	Bird	1	SW	70'		
0616	Bonin Is. P.	1	SW	low	going rather fast	
0620					morning station	
0620					Sunrise	
0641	Pterodroma	1	E	low		
0650	R.T. Tropicbird	1	OS	40'	hovered for 5 min over ship; no gun	
0648	<del>████████</del>	1	55°	25,000'	Large swept wing 4 engine craft, leaving vapor trail - JET AIRPLANE underway	
0720					flying like Pterodroma	
0730	Wedge-tail	1	N	low		
0735	Pterodroma	1	NW	low		
0745	Bird	1	S	to 40'		
0756	Pterodroma(4)	1	S	low	Dark brown above, light body below; could not see head, underwings. "Drifting" above & below horizon, distant	
0758	Pterodroma(4)	1	S	low		
0802	Pterodroma	1	S	low		
0805	" "	1	S	low		
0846	Wh. N. PETREL	1	NE	low		
0945	Wh. Petrel	1	SW	low		
1026	Bonin Is. P	1	SSW	low		
1036	Shear-Pet	1	NW	low		
1041	Bonin Is. P.	1	SSE	low		
1055	Pterodroma	1	S	low		
1113	Pterodroma	1	S	low		
1131	Shear. Pet	1	N	"		
1140	Wedge-tail	1	SE	"		
1215	Pterodroma	1	NW	"		
1224	Bulwer's Pet	1	-	"		
1301	Pterodroma	1	N	"		
1315	Frigate	1	N	100'	Ad. ♂ - drifting south.	
1335	Wh. N. Petrel	1	NW	low		
1341	Bulwers	1	SE	"		
1342	Bonin I. Pet	1	S.E.	"		
1426	WEDGE-TAIL	1	SE	"		
1450	Sooty Tern	1	S	"		
1523	- - - - -	1	NNW	"	LEAVE GRID! COURSE CHANGE TO NNW	
1528	PTERODROMA	1	NNW	low		
1531	BONIN Is.	1	SSE	"		
1600	R-T TROPIC	1	NNW	60'		
1651	Bonin Is Petrel	1	SE	low	<del>Collected</del> - so sorry! - got up + flew away! Yellow bill.	
1739	<del>Hammertooth</del>	1	WSW	H2O	Hammerhead shark	
1749	Bonin I Pet	1	SSE	low		
1758	Pterodroma	1	NNW	low		
1821	Pterodroma	1	SSE	low		
1855					SUN DOWN	

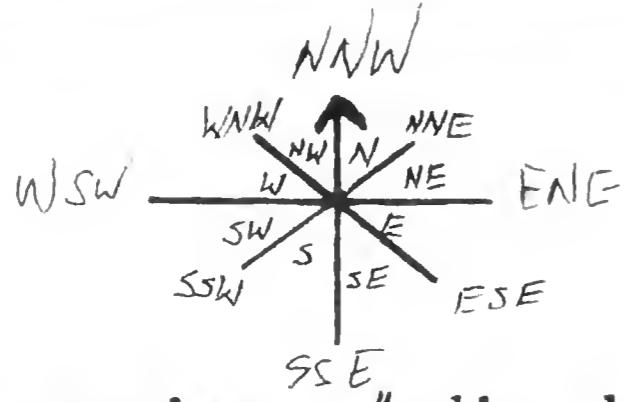
IN GRID

IN



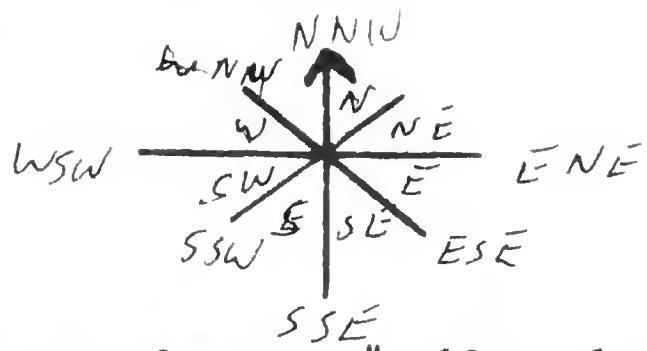
DATE 14 AUGUST 64  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0600	- - -	-	-	-	- BEGIN OBSERVATIONS	
0612	- - -	-	-	-	- SUNRISE	
0639	SOOTY TERN	1	SSE	Low		
0645	WEDGETAIL	1	SSE	Low		
0648	WEDGETAIL	1	SSE	Low		
0702	SHEAR-Pet	2	SSE	Low	- flying very closely TOGETHER + appearing to be chasing one another - alighting on water momentarily + taking flight again - Perhaps feeding. Too DISTANT for IDENT.	
0709	Bulwers Pet.	1	NNW	Low		
0711	Pterodroma	1	SSE	Low		
0714	Bulwers Pet	1	SSE	Low		
0717	SHEAR-Pet.	1	-	Low	- POSSIBLY SAME BIRD AS 0709 (?)	
0720	BONIN Is.	1	SSE	Low		
0728	BONIN Is.	1	S	Low		
0729	SOOTY TERN	1	SSW	Low		
0731	BONIN Is.	1	SSE	Low		
0736	WEDGETAIL	1	NNW	Low		
0744	WEDGETAIL	1	SSW	Low		
0750	BONIN Is.	1	SSE	Low		
0803	WEDGETAIL	1	S	Low		
0806	PTERODROMA	2	SSE	Low		
0807	SOOTY TERN	2	SE	40'		
0808	BONIN Is.	1	NNW	Low		
0825	Wedgetail	1	SW	"		
0840	Shear-Pet	1	SW	"	distant	
0906	Sooty Tern	1	E	80'		
0900	R.T. Tropicbird	1	E	80'		
0905	Wedgetail	1	SSW	low		
0905	Sooty Tern	1	ENE	30'		
0925	Wedgetail	1	NNW	low		
0933	"	1	N	"		
0938	"	1	NNW	"	joined 0933	
0938	Sooty Tern	4	SSE	20'		
1015	PTERODROMA	1	SE	10w		
1020	WedgeTail	1	S	low		
1035	SOOTY TERN	1	SE	10w	collected - flying aft then followed ship	
1047	PTERODROMA	1	SE	low		
1150	BONIN IS Pet	1	NNW	low		
1155	Wedgetail	1	SSW	low		
1225	Bird	1	SE	"	seen by bridge	
1241	WEDGETAIL	2	NNE	low		
1242	WEDGETAIL	1	"	"		
1245	SOOTY TERN WEDGETAIL	35±5 12±2	SE	"	2 Wedgetails collected.	
Flock						



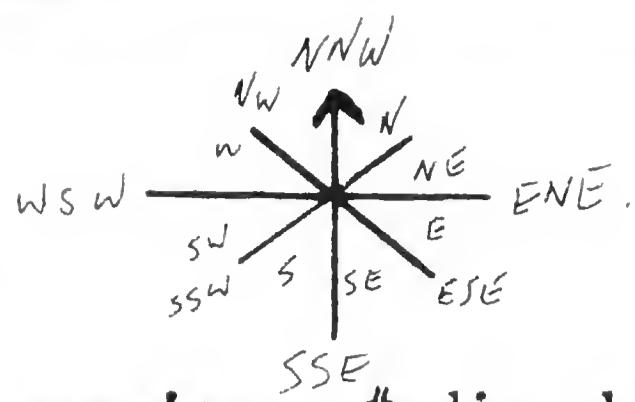
DATE Aug 14 Aug  
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1316	Bonin Is.	1	SE	low		
1342	BULWERS PET	1	ESE to NNW	low		
1356	Sooty TERN	2	E	30'	-1 collected	
1409	Bonin Is.	1	SSE	low		
1410	Wedge-tail	1	SE	"		
1424	Sooty Tern	4	ENE	60'		
F 1430	Flock					
	Sooty Tern	11	Ø	- - -	1 immature	
	Wedge-tail	1	- - - - -	-	on H <sub>2</sub> O; collected	No feeding
F 1450	Flock					
	Sooty Tern	1	Ø			No feeding
	Wedge-tail	6	Ø			
1452	Bulwers Pet	1	SSE	low	may have come from flock; collected (RM)	
1510	Sooty TERN	1	NNW	"		
1525	Bonin Is.	1	NNW	"		
F 1525	Flock					
	Sooty Tern	10 ± 2	SSE			
	Wedge-tail	4 ± 2	SSE			
1530	Sooty Tern	1	SSE	50'		
1540	Bonin Is.	1	SSE	low		
1542	Wedge-tail	1	WSW	"		
1543	"	1	SSE	"		
1544	Bulwers	1	SSE	"		
F ca 1600	Flock -	-	-	-	- - feeding; small fish seen beneath	
	Sooty Tern	3.5 ± 5	-	71		
	Wedge-tail	110 ± 10	-	50	5 collected	
ca 1645	Brown Booby	1	N	50'		
1700	R-T Tropic.	1	N	80'		
1703	Bonin Is	1	NNW	low		
1711	Wedge-tail	1	NW	low		
1747	Wedge-tail	1	SSE	low		
1747	Bonin Is Pet	1	3-7N	NW		
1747	Wedge-tail	1	SSE	low		
1834	Wedge-tail	1	S	low		
1840	Bonin Is P.	1	SSE	low		
1841	Wedge-tail	1	NNW	low		
1860	a	1	NNW	low		
1900	Wedge-tail	1	NNW	low		
1905	S				SUN set	



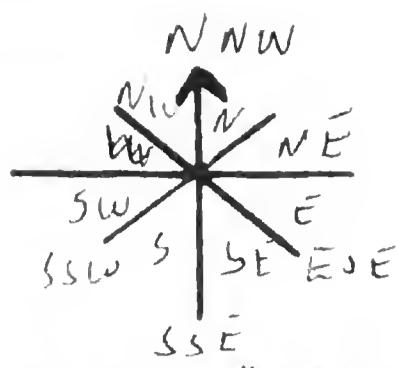
DATE 15 August 1964  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0600	Wedgetail	2	NNW	low		
0612	Sooty Tern	1	SSE	30'		
0615	.....	—	—	—	Seen Up	
21-37	0621	Wedgetail Sh.	5	NNW	low	
12-98	0624	Wedgetail	10	NNW	low	
	0625	Sooty Tern	1	NNW	40'	
	0628	Sooty Tern	1	SE	40'	
	0630	Sooty Tern	1	E	50'	
	0631	Sooty Tern	3	N	low	
Flock	0637	Sooty Tern	85+	Q	low-70'	appeared to be actively feeding.
	0650	Wedgetail	1	SSE	low	
	0656	Sooty Tern	1	SSW	430'	
	0659	Wedgetail	1	S	low	
	0701	Wedgetail	1	SSE	low	
5-5-	0713	Sooty Tern	1	NNW	40'	
	0719	Bonin Is Pet	1	S	low	
	0720	Wedgetail Sh	1	E NE	low	
	0728	Sooty Tern	2	W	60'	
	0746	Sooty Tern	1	NNW	low	
	0748	Wedgetail	3	SSW	low	
	0753	Bonin Is Pet	1	NNW	low	
	0755	Wedgetail	1	Q	low	
	0803	"	1	SSE	"	
	0811	"	1	E NE	"	
	0816	"	1	NNW	"	
	0823	Sooty Tern	1	S	40'	
	0830	Wedgetail	2	NNW	low	
	0831	"	1	NNW	"	
	0837	Bonin Is.	1	SSE	"	
	0848	Wedgetail	1	N	"	
	0850	"	1	A	"	
	0856	"	1	SSE	"	
	0903	Sooty Tern	1	SW	15'	
1-1	0904	Bonin Is Pet	1	SSE	low	
	0906	Wedgetail	1	N	"	
	0907	Bonin Is.	1	SSE	"	
	0908	Wedgetail	1	N	"	
	0909	"	1	N	"	
	0910	"	1	N	"	
	0912	"	1	N	"	
1-1	0953	Herodrome	1	SSE	"	
	0935	Bonin Is	1	NNW	"	



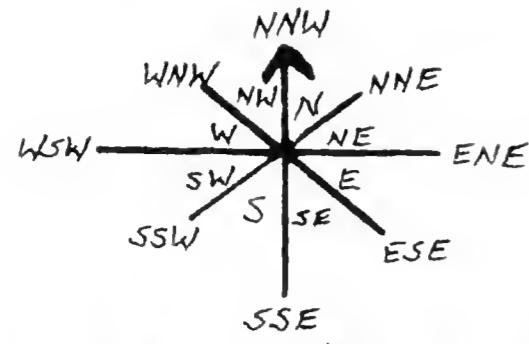
DATE 15 Aug 1964  
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1-1 0945	Shear-Pet	1	NNW	low	distant	
5-5 0951	Bulwer's Pet	1	WSW	"		
21-23 0956	Wedgetail	2	S	"		
0957	"	1	S	"		
0959	"	1	SW	"	shot + collected	
1002	"	1	N	"		
12-14 1023	SOOTY TERN	3	SSE	30'		
1024	WEDGETAIL	2	NE	low		
1025	SOOTY TERN	1	N	"		
1029	SOOTY TERN	1	N	"		
1-1 1037	BONIN Is.	1	NE	"		
1102	SOOTY TERN	1	SSE	60'		
1103	WEDGETAIL	1	SE	2000		
1107	"	1	N	"		
1120	SOOTY TERN	1	NE	40'		
1120	WEDGETAIL	5	N	0 to low	- sitting on H <sub>2</sub> O - flushed by ship.	
1124	WEDGETAIL	3	ENE	low		
1124	SOOTY TERN	1	E	60'		
1132	Bulwer's Pet.	1	SSW	low		
1133	SOOTY TERN	1	SE	40'		
1136	WEDGETAIL	1	SE	low		
1142	WEDGETAIL	1	S	"		
1143	SOOTY TERN	3	SW	40'		
1147	BULWERS PET.	1	ENE	low		
1148	WEDGETAIL	1	SSE	"		
1-1 1151	PTERODROMA	1	S	"	- DISTANT	
1159	BULWERS	1	S	"		
Flock 1200	SOOTY TERN	125	±25			
1	WEDGETAIL	110	±10			
1320	CHRISTMAS Is. FRIGATE Cr.	1				
1325	R-T. TROPIC	1	NNW	90'		
1332	WedgeTail	1	NNW	low		
1335	SOOTY TERN	1	SSW	low	30'	
1336	WedgeTail	1	NNW	low		
1338	WedgeTail	1	SSE	low		
1340	SOOTY TERN	1	NNW	50'		
1343	R-T. TROPIC	2	SE	85'	- collected?	
1354	SOOTY TERN	3	Z	low		
1354	WedgeTail	1	SSE	low		
1356	Bulwer's P	1	NNW	low		
1358	WedgeTail	1	SSE	low		
1400	WedgeTail	1	SSE	low		
1401	WedgeTail	1	SSE	low		
1406	WedgeTail	1	SSE	low		



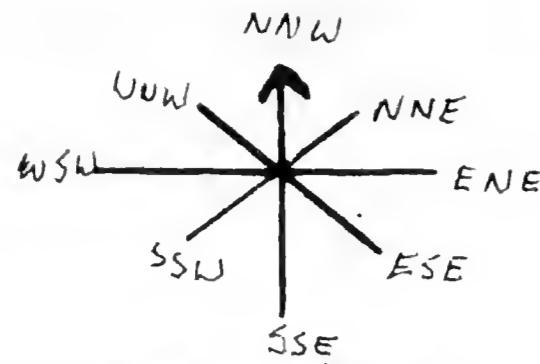
DATE 15 August 1964  
Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
14 42	Sooty Tern	8	Q	low		
14 46	Wedgetail	3	S	low	appear to be feeding.	
9 9	Bonin Is.	1	NNW	"		
14 17	Sooty Tern	1	NE	"		
14 18	Wedgetail	1	SE	"		
14 20	Wedgetail	1	N	low		
14 24	Wedgetail	1	N	low		
14 29	Shear-tail	1	S	low		
14 33	Wedgetail	1	S	low		
14 36	Wedgetail	1	S	low		
14 39	Bonin Is.	1	S	low		
14 45	Bonin Is.	1	S	low		
14 48	Bonin Is.	1	S	low		
14 50	Sooty Tern	2	S	low		
14 52	Bonin Is.	1	N	low		
14 56	Sooty Tern	2	S	low	Immature	
14 58	Bonin Is.	1	SSE	low		
14 59	Pterodroma	1	SSE	low		
15 00	Wedgetail	1	N	low		
15 06	Sooty Tern	2	NNW	30'		
15 12	Wedgetail	1	N	low		
15 16	Sooty Tern	3	NW	30'		
15 23	" "	15	SSE	80'-100'		
15 27	" "	3	SSE	75'	! Immature	
15 27	Tern	1	SSE	"	Mottled gray above, white below, smaller than Sooty. Molting or immature gray-back?	
15 49	Wedgetail	1	S	low	seen to pack at sandbar + skinning remain	
15 56	Sooty Tern	1	NNW	low	thrown overboard. Bright pink feet.	
16 02	" "	1	N	"		
16 02	" "	1	N	"		
16 03	Christmas Is.	1	NNW	"		
16 04	Bonin Is.	1	S	"		
16 08	Bulwer's Pet	1	SSE	"		
16 11	SOOTY TERN	1	NNW	60'		
16 17	WEDGE-TAIL	1	N	low		
16 17	WEDGE-TAIL	1	NE	low		
16 28	BONIN Is.	1	SSE	low		
16 30	BONIN Is.	1	SSE	low		
16 47	WEDGE-TAIL	1	S	low		
16 50	WEDGE-TAIL	1	NW	low		
16 51	WEDGE-TAIL	1	NNW	low		
16 57	SOOTY TERN	1	N	low		
16 58	" "	1	N	low		



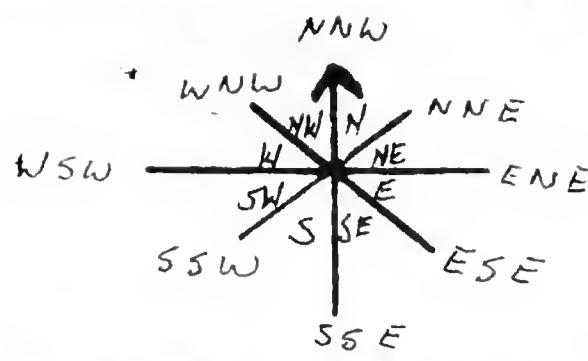
DATE 15 AUGUST 64  
Pg. # 4

time	species	#	dir.	hgt.	remarks	loc.
5 - 5	1705 WEDGETAIL	1	N	low		
7 - 15	1720 SOOTY TERN	1	N	15'		
	1721 WEDGETAIL	1	N	low		
	1723 SOOTY TERN	1	N	low		
	1724 SOOTY TERN	1	N	(82)		
	1732 Bird	1	S	"		
	1743 WEDGETAIL	1	NNW	low		
	1750 WEDGETAIL	1	S	low	- DARK PHASE (?)	
1805	PTERODROMA	2	NE	low		
1814	SOOTY TERN	1	N	low		
1816	SOOTY TERN	2	NNE	low		
1818	R.-T. TROPIC	1	NNW	0 TO 150'	Feeding - 1 dive from 150' - seemed to go completely UNDERWATER, other dive from 100' - just skimmed SURFACE OF Water. SHOOK WATER FROM FEATHERS IN flight after dives.	
1820	SOOTY TERN	6	NE	low		
1821	" "	3	NNW	low		
1832	BONIN IS.	1	W	low		
1845	R.-T. TROPIC	2	O	150'	1. Collected	
1813	WEDGETAIL	1	N	low		
CP 1815	— — —	—	—	—	- SUNSET	
1830	WEDGETAIL	1	S	low		
		17	27			



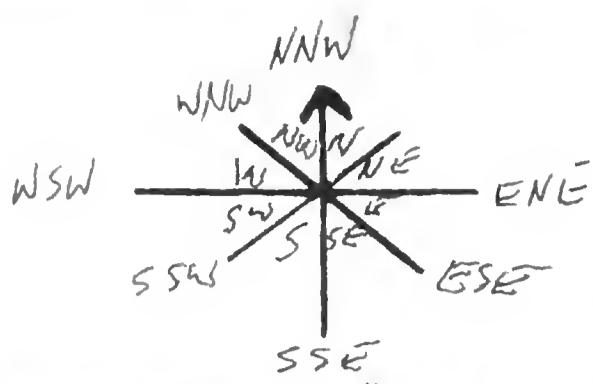
DATE 16 AUGUST 64  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0615					Begin observations	
0615	Wedgetail	4	NNW	low	following briefly	
0617					sunrise	
14-18	SOOTY TERN	2	N	50'		
12-19	Wedgetail	1	NNE	low		
13-15	"	8	NNW	"		
0625	Sooty Tern	1	E	"		
0629	Wedgetail	1	NNW	"		
0630	Frigate	1	ESE SE	100'	Imm.	
0630	Wedgetail	4	NNW	low		
0634	Sooty Tern	1	SW	30'		
0634	Wedgetail	1	SSE	low		
0640	Sooty Tern	3	S	40'		
0645	" "	1	SE	low		
3-3	RED-TAIL TROPIC	1	NNE	"	circled over ship, then dove for squid & flew off	
0650	Wedgetail	6	ENE?	"		
0650	Sooty Tern	1	ENE	30'		
0651	" "	6	ENE	30'		
0653	RED-TAIL TROPIC	1	O	100'	Joined 0646; also feeding - flying fish seen underneath.	
0655	Sooty Tern	1	SSE	30'		
0659	" "	3	SE	30'		
0659	" "	1	NNE	low		
1-1	Ruddy Turnstone	1	OSE	30'		
0715	Wedgetail	2	SSW	low		
4-4	BONIN I. PET	1	SSW	"	Tropic birds still around	
0722	SOOTY TERN	1	SSW	20'		
0723	" "	4	SSE	30'		
0723	RED-TAIL TROPIC	1	O	50'	Joined previous two	
F	0730 FLOCK WEDGETAIL Sooty Tern	50 ± 10 20 ± 5			very loose flock, perhaps just forming. No feeding	
1-1	0731 Wedgetail	1	SSW	low		
0734	Pterodroma	1	NNW	"		
0735	WEDGETAIL	2	NNW	"		
0737	"	1	S	"		
0737	BONIN I. PET	1	SSE	"		
0742	Shear-Pet	1	S	"		
0745	BONIN PETREL	1	S	"		
0755	SOOTY TERN	3	SSE	20'		
0758	Bonin Petrel	1	S	low		



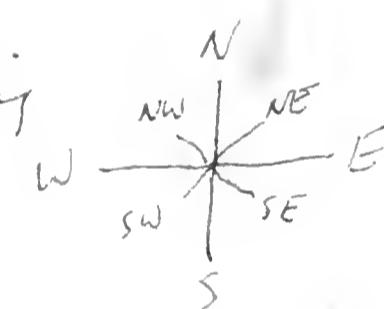
DATE 16 August 1964  
Pg. # 2

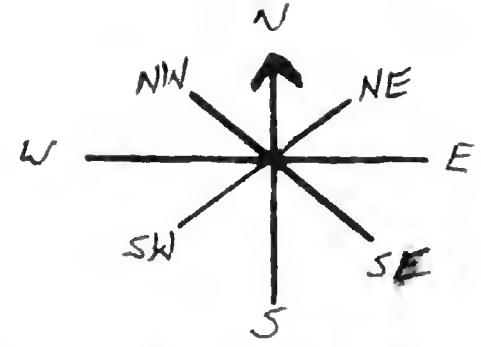
time	species	#	dir.	hgt.	remarks	loc.
18-21	0759 WEDGETAIL	1	S	low		
12-18	0809 BONIN Is.	1	SSE	low		
	0815 BONIN Is.	1	SSE			
	0816 BONIN Is.	1	SSE	low		
2-2	0828 R-T TROPIC	1	SSE	low		
	0832 BONIN Is.	1	N	low	- Alighted on H <sub>2</sub> O	
	0833 WEDGETAIL	2	N	low		
	0836 BONIN Is.	1	NW	low		
	0839 WEDGETAIL	1	NNW	low		
5-8	0840 SOOTY TERN	2	NE	low		
	0842 WEDGETAIL	1	SE	30'		
1-2	0844 PTERODROMA	2	NW	low		
	0846 WEDGETAIL	1	SW	low		
	0851 BONIN Is.	1	SW	low		
	0852 BONIN Is.	2	W	low		
	0854 WEDGETAIL	1	NW	low		
	0856 SOOTY TERN	3	N	low		
	0858 WEDGETAIL	1	N	low		
	0859 BONIN Is.	1	ENE	low		
	0902 WEDGETAIL	1	NE	low		
2-3	0905 Ruddy Turnstone	1	②	30'		
45-52	0906 WEDGETAIL	2	WW	low		
	0911 SOOTY TERN	1	E	60'		
	0912 WEDGETAIL	2	NNW	low		
	0914 SOOTY TERN	1	SSE	40'		
	0927 WEDGETAIL	1	NW	low		
	0929 BONIN Is.	1	S	low		
	0930 BONIN Is.	1	SSE	low		
	0939 Ruddy Turnstone	1	E	60'		
	0949 WEDGETAIL	1	N	low		
	0955 WEDGETAIL	1	NE	low		
	0958 BONIN Is.	1	S	low		
	1004 BONIN Is.	1	N	low		
	1006 BONIN Is.	1	NNW	low		
	1006 BONIN Is.	1	SSE	low		
	1008 Wedgetail	1	S	low		
	1009 R-T Tropic	1	NNW	90'		
	1012 Sooty tern	1	NE	70'		
	1013 Wedgetail	1	NNW	low		
	1016 Bonin Is.	1	NW	low		
	1019 Wedgetail	1	NW	low		
	1019 Bonin Is.	1	E	low	joined 1116 both flying east	
	1020 Wedgetail	1	S	low		
	1024 Wedgetail	1	②	low	joined 1020 circling 1032 flew NW together	
	1029 Bonin Is.	1	SSW	low		



DATE 16 Aug 1964  
Pg. # 3

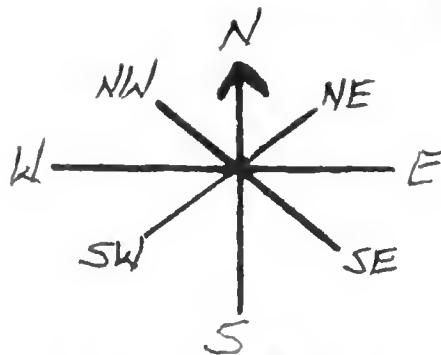
time	species	#	dir.	hgt.	remarks	loc.
1-1	Tropic Bird	1	ENE	6100'		
1-1	Hcourts St. Pet.	1	NNW	low	- good sighting by both observers - sky very clear.	
5-7	Bonin Is.	2	NNW	low		
20-109	Bonin Is.	1	SSE	low		
1041	Wedgetail	1	SSE	low		
1042	Wedgetail	3	SSE	low		
1047	Wedgetail	1	NW	low		
5-160	Sooty Tern	2	SSE	30'	- ship changed course to 005 - not noticed until 1115, so minor error in directions.	
1059	Wedgetail	1	S	low		
1104	Wedgetail	1	NNW	low		
1105	Wedgetail	1	NNW	low		
1107	R-T. Tropic Is	1	NE	60'	- circled around ship + returned SW,	
1108	Sooty Tern	2	N	45'	- " " " + headed S,	
1109	Wedgetail	1	WSW	low		
1110	Wedgetail	2	NNW	low		
1115	Bonin Is.	1	NE	low		
1119	Wedgetail	1	NNW	low		
1120	Wedgetail	1	NW	low		
1129	Wedgetail	2	S	low		
1130	Bonin Is?	1	NE	low		
1137	Bonin Is P	1	NE	low		
1139	Wedgetail	1	N	low		
1140	Wedgetail	1	N	low		
1142	Wedgetail	2	SW	low		
1153	Wedgetail	1	NNW	low		
FLOCK	1156					
	Sooty Tern	105°5' E		→ 90°		
	Wedgetail	50°5' E		low		
	R-T Tropic	1	E	90°		
1205	Bonin Petrel	1	NE	low		
1207	RED-TAIL TROPIC	2	N	low + 40'	got up from water 20' from port bow; sat down again	
1214	" "	2	—	—	on H <sub>2</sub> O - not same as above.	
1217	Wedgetail	1	N	low		
1222	"	2	N	—	scattered	
1228	Sooty Tern	1	NE	50°		
1230	Wedgetail	1	W	low		
Flock	1238					
	Sooty Tern	50°5'			feeding	
	Wedgetail	20° + } N				
H-2	Frigate	2			Both imm or ♀ - chasing each other	





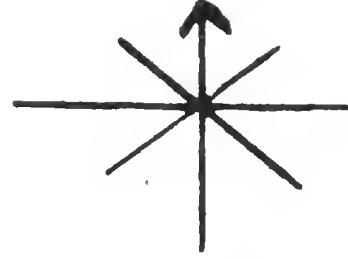
DATE 16 August 1964  
Pg. # 4

time	species	#	dir.	hgt.	remarks	loc.
1247	Wedge-tail	1	N	low		
1248	"	1	"	"		
1248	"	1	"	"		
1300	"	1	E	"		
1309	RED-H. TROPIC	1	O	70'		
1311	WEDGE-TAIL	1	W/N	low		
1315	WEDGE-TAIL	2	S	low		
1321	SOOTY TERN	2	NNW	50'		
1327	Ruddy Turnstone	1	NE	low		
1327	WEDGE-TAIL	1	N	low		
1330	- - -	- - -	- - -	- - -	APPROXIMATELY 3 HOURS SOUTH OF PEPPL + HEEMAS REEF	
1332	SOOTY TERN	1	SE	40'		
1336	WEDGE-TAIL	1	S	low		
1337	SOOTY TERN	1	NW	60'		
1339	WEDGE-TAIL	2	S	low		
1341	WEDGE-TAIL	1	NW	low		
1346	SOOTY TERN	2	N	60'		
1349	WEDGE-TAIL	1	S	low		
clock	SOOTY TERN	1	S	low	- 1-imm - NOT FEEDING	
1405	WEDGE-TAIL	1	O	low		
1409	WEDGE-TAIL	1	S	low		
1414	BONIN Is.	1	N	low		
1417	SOOTY TERN	1	NE	50'		
1418	WEDGE-TAIL	1	N	low		
1421	SOOTY TERN	2	N	70'		
1424	WEDGE-TAIL	1	NW	low		
1428	WEDGE-TAIL	1	NW	low		
1428	BONIN Is.	1	S	low		
1431	WEDGE-TAIL	1	S	low		
1431	WEDGE-TAIL	2	N	low		
1434	SOOTY TERN	1	N	60'		
1435	SOOTY TERN	3	N	50'		
1435	WEDGE-TAIL	1	N	low		
1437	WEDGE-TAIL	1	N	low		
1441	FAIRY TERN	1	NE	50'		
1445	BONIN Is	1	N	low		
1446	SOOTY TERN	2	N	60'		
1447	WEDGE-TAIL	2	O	low		
1455	WEDGE-TAIL	1	O	low		
1456	SOOTY TERN	1	N	low		
1456	SOOTY TERN	1	S	low		
1456	WEDGE-TAIL	1	N	low		
1501	RED-H. TROPIC	1	S	100'		
1503	SOOTY TERN	5	SW	30'		
1511	WEDGE-TAIL	1	SW	low		
1520	SOOTY TERN	1	S	50'		



DATE 16 AUGUST 64  
Pg. # 5

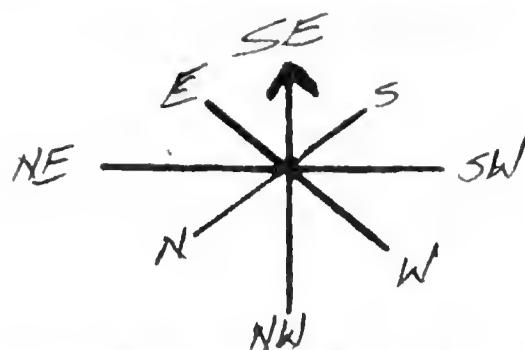
time	species	#	dir.	hgt.	remarks	loc.
1522	SOOTY TERN	1	S	40'		
1529	WEDGE-TAIL	1	NW	LOW		
1532	SOOTY TERN	2	N	60'		
1534	SOOTY TERN	2	S	LOW	→ circled + JOINED	
1535	SOOTY TERN	1	N	40'		
1540	SOOTY TERN	25±	S (O)	To 60'	- Feeding	
1541	SOOTY TERN	25±	S (O)	"	- Not seen feeding but QUITE DISTANT	
1541	WEDGE-TAIL	1	WAN	LOW		
1542	SOOTY TERN	1	N	50'		
1545	- - - - -	-	-	-	PEARL + HERMES IN SIGHT	
1551	SOOTY TERN	1	S	LOW		
1552	" "	4	S	LOW		
1553	" "	1	S	60'		
1555	" "	3	S	LOW		
1600	TURNS	18	(O)	To 40'	- Feeding - Noddies or imm SOOTIES	
1600	SOOTY TERN	1	NW	LOW		
1601	" "	1	N	40'		
1602	" "	2	NW	60'		
1604	" "	15	N	LOW	- SCATTERED ABOUT AREA	
1604	NODDIES	5+	N	LOW		
1606	FRIGATE	2	(O)	150'	- " " " "	
1607	- - - - -	-	-	-	- SOME BIRDS VISIBLE OVER ISLAND NOW	
1609	FAIRY TERN	1	E	40'		
1610	FRIGATES	8	(O)	HIGH	- OVER ISLAND	
1610	GRAY-BACK Tern	1	NW	-	-	
1610	- - - - -	-	-	-	- LARGE SOOTY Colony VISIBLE	
1615	- - - - -	-	-	-	- BIRDS ALL ABOUT - CEASE INDIVIDUAL COUNTS -	
1630	(MASKED BOOBY) RED-FT. BOOBY COMMON NODDY SOOTY TERN FRIGATE BROWN BOOBY TROPIC BIRD SOYSEN ALBATROSS	-	-	-	- ARE 1 MI FROM ISLAND SHIP ANCHORED	
1745	- - - - -	-	-	-	- S.I. PARTY + GEAR BOUND FOR Island. " " " ASHORE	
1800	- - - - -	-	-	-	- RUBBER BOAT + SAILORS (2) Returning To SHIP.	
1815	- - - - -	-	-	-	- 200± FRIGATES IN AIR OVER ISLAND (HIGH)	
1820	- - - - -	-	-	-	- ESTIMATE OF 1500±200 BIRDS WITHIN 95' OF ISLAND IN AIR. SAILORS ABOARD!	
1835	- - - - -	-	-	-	-	
1955	- - - - -	-	-	-	- RADIO CONTACT MADE - ALL'S WELL!	
		22	123			



DATE 19 AUGUST 64  
Pg. # 2

0945 - SHIP UNDERWAY BOUND FOR  
HERMES IS. OF PEARL + HERMES REEF

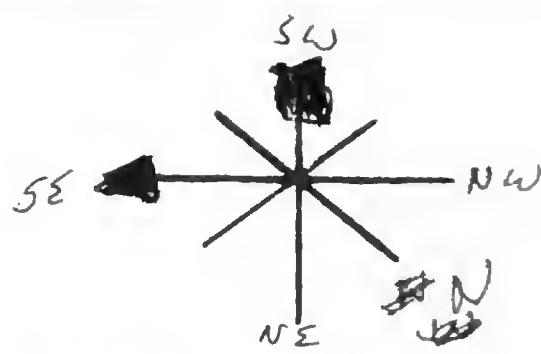
time	species	#	dir.	hgt.	remarks	loc.
0945	-	Heading SSE	-	About Pearl are scattered numbers of Wedgetails, Sooties Red-tl. Tropicbird, Noddies and Frigates. 13 Noddies feeding 5 of ds. Wedgetails in omnidirectional flight are scattered from Pearl to SW horizon but in much smaller numbers than earlier noted. Sooties have decreased in area.		
1000	-	RADIO CONTACT MADE WITH S.I. PARTY CROSSING PEARL + HERMES LAGOON IN RUBBER RAFT				
1010	-	SEVERAL - 20-30 wedgetails in area about ship 2-2½ mi SE of Pearl. Course <sup>ship</sup> NE " 20-30 SOOTIES "	"	"	"	"
1015	COMMON NODDYS	IN Flock	heading NE	+ low over water	- Feeding occasionally. - 65±5	
1025	wedgetails	in area	flying omnidirectionally	but seem to fly into wind greater portion of time. Sooties have reduced momentarily. These seem to be only species present here. Pearl presently 5 mi to the west of ship. Occasional single noddies present. Flying fish about - first seen around reef.		
1030	Tropicbird	at great altitude	over reef. old ship - wreched on reef	<sup>Blantly</sup>	visible on horizon ahead. another tropicbird low over red. ship is presently 1½-2 mi SE of reef, headed NW occasional wedgetails and sooties about ship.	
1035	-	Fire drill aboard ship -	sound of horn attracted sooty Terns. (16)			
1040	-	Hermes Plainly in sight	5 miles to west of Present position		Now following	
	scattered throughout area.				wedgetails + sooties	
1045	Large flock of Birds	(probably Terns)	around wreckage of ship on reef - would estimate 500-600.			
	birds more spots.		15-20 Frigates or larger birds			
1050	Birds now abundant	about ship	15-20 Frigates or larger birds		wreckage 3½ mi distant. small flock of birds frequent along surf. 3 imm. Masked	
	Sooty Terns frigates	50-60 wedgetails, 2 Brown Boobys, 3 red-ft. Boobys,				
1120	pt dooth island	- can see no exit for boat through reef. & fairy Terns in area can see seals + albatross (laysan) on Hermes. other birds have diminished in numbers.				
	No radio contact made with S.I. Party but can see them.					
1125	Fairy Terns	Abundant opposite far end of reef. 12 counted in 90° score - generally low over water.				
1130	men on Island	- 500±50 Frigates in air - view of men obstructed by clouds of birds. Fairy Terns still abundant (20 in 90° ac) and in flocks along reef - apparently feeding. 3 imm Brown Boobys near ship, wedgetails, sooties and Noddies about. Flocks of Fairy Terns vary from 50± to 30± individuals and singles. Flocks of dark terns (probably Noddies) about reef - est. 150-175 birds. Fairy Terns can be seen on reef coral.				



DATE 20 AUGUST 64  
Pg. # 1

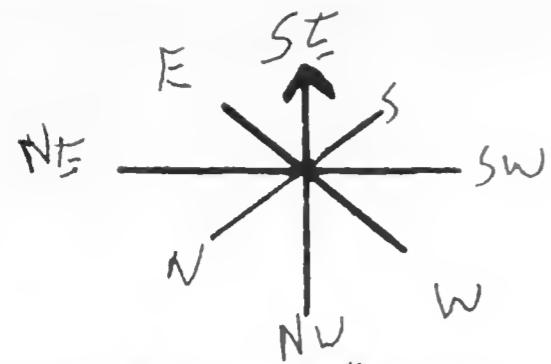
time	species	#	dir.	hgt.	remarks	loc.
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1505	-	-	-	-	UNDERWAY BOOND FOR LISIANSKI - Moving along reef in easterly directions. Very few birds in area - an occasional Sooty Tern and Wedgetail. Fairy Terns not nearly as abundant as yesterday! Tide has not receded from reef entirely as it appeared to <del>be</del> yesterday.	
1530					No flocks of birds apparent on reef at present - a few terns, fairy & probably Noddy flying along it ship presently 1 mi from reef in calm water. Very few birds over ocean. 10 frigates in air over island., a few Terns and a very few noddies between ship and reef. (obs <sup>used</sup> )	
1545					in 360° view of ship (including reef) - 2 Boobies, 1 noddie, 1 wedgetail, (3 frigates & scattering of Terns over island). Sooty Terns (7) flying to reef.	
1600	-	-	-	-	REEF 1½ to 2 mi distant commence individual logging of species.	
1604	wedgetail	1	SS	low		
1605	wedgetail	1	SS	low		
1606	WEDGETAIL	1	SS	low		
1606	SOOTY TERN	1	S	60'		
1607	R-T TROPIC	1	NE	OTOLOW	- arose from water	
1612	" "	1	SS	low		
1614	WEDGETAIL	1	SS	low		
1616	"	1	SS	low		
1617	"	1	SS	low		
1624	BONIN Is.	2	NE	low		
1625	SOOTY TERN	1	NW	low		
1627	WEDGETAIL	1	SS	low		
1629	COMMON NODDY	1	SW	low		
1630	FAIRY TERN	1	SW	60'		
1634	NODDY	1	NW	low		
1635	WEDGETAIL	1	N	OTOLOW		
1638	NODDY	1	SE	low		
1639	SOOTY TERN	1	NE	low		
1640	WEDGETAIL	1	SS	low		
1643	SOOTY TERN	1	N	low	- imm.	
1645	BONIN Is.	1	N	low		
1654	SOOTY TERN	+	N	low	- Circling much.	
1655	" "	2	N	low		
1656	" "	1	SE	40'		
1716	" "	1	W	60'		
1725	Booby ?	1	W	30'		
1735	Bonin I.	2	N	low	Dunn. BF ?	
1736	Sooty Tern	3	SE	30'		



DATE 20 Aug. 64  
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
F 1740	Sooty Tern	75	+ }			
	Wedgetail	100	+ }			
	Booby	15	+ }		Mainly Blue-faced - Ad. + Imm., + a few RF	
	Noddy	50	+ }		Block distant, low, very long string - 10 minutes to cross tow. Some feeding (boobies + wedgetails)	
1745	Noddy	6	W	low		
1746	Sooty Tern	1	ESE	30'		
1747	Bonin Is.	1	NW	low		
1747	Sooty Tern	1	S	low		
1751	Bonin Is.	1	S	low		
1751	Fairy Tern	1	E	50'		
1754	Sooty Tern	1	NW	low		
1759	Brd (Golden Plover)	1	NW	60'	Shorebird? Appeared all dark, very fast flight	
1800	Wedgetail	1	S	low		
1802	Masked Boob	1	NW	low		
F 1804	Sooty Tern	50	+ 5			
	Wedgetail	20	+ 5		No feeding observed	
1806	Sooty Tern	1	S	20'		
1809	Bonin Is.	1	S	low	Flushed off water	
1815	Golden Plover	1	N	to 60'	cricked ship twice	
1818	Wedgetail	1	N	low		
1818	"	1	N	low		
1819	Sooty Tern	2	SW	low		
1827	.	1	SE	30'		
1829	Wedgetail	1	SE	low		
1830	"	1	N	"		
1832	Sooty Tern	1	SE	"		
1834	Brown(?) Boob	1	②	"	- (induced to think this bird was also facoy.)	
1834	Wedgetail	1	②	"	Albatross after seeing flight of 1840 entry due to wind)	
1835	"	1	②	"		
1836	Pterodroma	1	E	"		
1836	Sooty Tern	9	E	"		
1840	LAYSAN Alba.	1	N			
F 1851	SOOTY TERN	7	N	low	- low wind - much flapping	
	WEDGE-TAIL	4	②		- NOT FEEDING - Very loose flock.	
1852	WEDGE-TAIL	2	②	low		
1855	R.T. Tropic	1	NE			
1858	R. Turnstone	1	SE	50'		
1858	Wedgetail	1	NE E	low	Sitting on water	

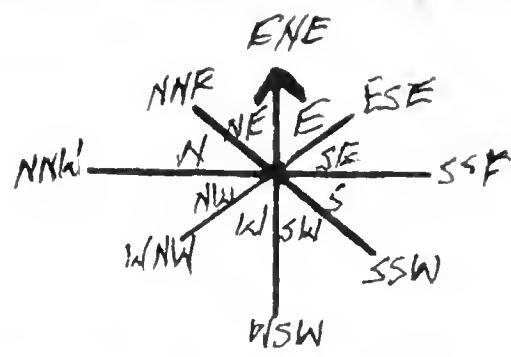


DATE 20 Aug. 64  
Pg. # 3

time species # dir. hgt. remarks

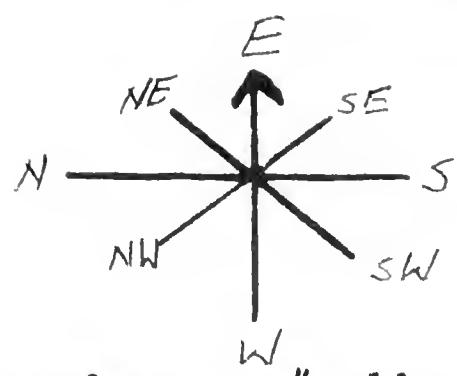
loc.

1905	Sooty Tern	3	SE	50'	
1910	R. Turnstone	1	NE	20'	
1914	Wedgetail Pi		NW	Low	
1914	R.T. Tropic	1	NW	150'	
1915	Sunset	1	W	84,000,000 mi.	



DATE 23 August 64  
Pg. # 1

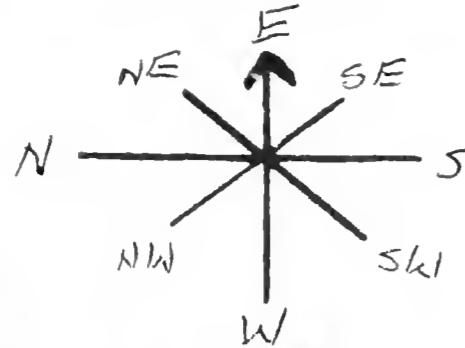
time	species	#	dir.	hgt.	remarks	loc.
0700		-	-	-	- RAISE ANCHOR	
0715		-	-	-	- commence observations - headed North - Island to right E.	
	Sooty Tern	very numerous, wedge-tails not overly numerous and typical flight - omnidirectionally. A few boobies about flying very low on water. Frigates occasional, sooties feeding on flying fish but not in flocks.				
0730	ship Course	-	ENE	-	- commence species observations. <u>single observer!</u>	
0734	SOOTY TERN	1	NNW	70'		
0735	" "	16	ENE	40'	- following Ship	
0736	" "	2	ESE	low		
0737	B.F. Booby	1	NNW	low		
0738	B.F. Booby	2	NNW	low		
0738	SOOTY TERN	1	E	low		
0738	Wedge-tail	2	NNW	low		
0738	B.F. Booby	1	W	low		
0738	Shorebirds	3	SE	low	- dove into high side of wave - went completely under water and emerged from other side with fish.	
0740	Sooty Tern	10	E	40'	(island plainly visible to SSE + me,	
0743	Wedge-tail	1	SE	low		
0745	R.F. Booby	1	ENE	low	- following fishing line in water behind ship. 1 min.	
0745	wedge-tail	1	N	low		
0750	"	20+	-	low	- scattered throughout area.	
0751	Fairy Tern	1	E	low		
0752	Red-ft. Booby	2	NE	60'		
0755	Sooty T.	50+	-	low to 30'	- following ship. - in area - not flock.	
0800	Wedge-tail	30+	-	low		
0803	sooty T.	2	W	low	- " " away from " " - appear to be moving generally NNW -	
0805	-	-	-	-	- close observations for check - single observer!	
0825	BONIN Is.	2	SE	low		
0825	B.F. Booby	1	SE	low		
0825	Sooty Tern	25+	SE	low	- few imm (3) in area not flock.	
0825	Wedge-tail	15+	SE	low		
0830	Bonin Is.	250 ± 50	SE	low	- in area. estimate 250 ± 50 in area.	
0835	Brown Booby	1	E	50'		
0836	Common Noddy	1	NE	low		
0840	Bonin Is.	250 ± 5	-	low		
0842	Wedge-tail	1:	SE	low	- in area - too numerous to count accurately.	
0844	Bonin Is.	24	-	low	flushed from 10 by ship. Not feeling seen - 10 mi from do.	
0845	Sooty TERN	1	N	35'		
0847	" "	2	E	60'	- closed Bonin.	
0849	" "	3	E	low		
0850	Wedge-tail	1	SE	low	- dark phase.	
0851	Sooty Tern	6	Low	NE		
0853	Wedge-tail	3	SE	low		
0853	Sooty Tern	3	Low	NE		
0854	Bonins	250	ISO Low	SE	- in area	
0856	Wedge-tail	1	SE	low		



SINGLE OBSERVER

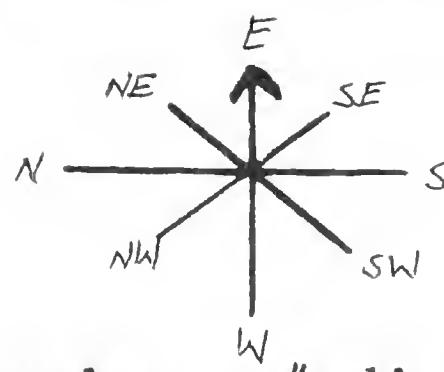
DATE 23 August 64  
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
0900	WEDGE-TAIL	3	SE	Low		
0901	BONIN IS.	300±50		Low		
0903	SOOTY TERN	3	S	40'	- in area. (estimate conservative - many on H <sub>2</sub> O) are discernible as Bonins for 1/2 - 3/4 mi.	
0905	Wedge-tail	1	N	Low		
0906	"	2	N	Low		
0908	"	2	S	Low		
0910	BONIN IS.	250±50		Low	- Generally flying into wind (E.)	
0911	Frigate	1	70'	E	Imm.	
0913	SOOTY TERN	4	E	80'		
0915	Wedge-tail	2		Low		
0915	-	-	-	-	- BONINS Greatly reduced. Probably no more than 25 in area	
0917	Wedge-tail	3		Low		
0918	SOOTY TERN	3	E	40'		
0923	" "	4	SW	60'		
0924	Wedge-tail	2		Low		
0925	BONINS	25±		Low	STORM IN NE.	
0930	SOOTY TERN	4	E	Low	- in area	
0931	R.T. TROPIC	1	E	Low		
0932	WEDGE-TAIL	3		80'		
0933	BONINS	25±		Low	- still (16-17 Mi from LISIANSKI)	
0934	SOOTY TERN	3	NW	Low	APPROX 25± in area.	
0936	WEDGE-TAIL	3		Low		
0937	SOOTY TERN	1	E	"		
0940	B.F. BOOBY	1	SE	Low		
0941	SOOTY TERN	3	E	Low	Dove (did dive)	
0941	WEDGE-TAIL	2		Low		
0945	SOOTY TERN	2		100'		
0947	WEDGE-TAIL	1	SE	40'	STORM NOW TO NW	
0950	BONINS	1		Low		
0953	SOOTY T.	25±		Low	- in area.	
0954	WEDGE-TAIL	3		Low		
0957	Pterodroma	1	S	Low		
0959	Frigate	1	SW	100'	- All dark brownish bird. slender body + wings compared to wedge-tail. Flight - typical Pterodroma with 3-4 quick flaps followed by swoop + glides. Imm. size - larger than Bulwer's smaller than wedge-tail. No distinctive markings under or over wing.	
1000	Bonins	30±5		Low	- in area.	
1001	Wedge-tail	2	"	"		
1002	Ruddy TURNSTONE	1	SE	Low		
1005	WEDGE-TAIL	20±		Low	- in area	
1010	WEDGE-TAIL	2	S	"		
1011	"	2		"		
1012	R.T. TROPIC	2	E	60' + 100'		
1013	SOOTY TERN	1	E	35'		
1015	WEDGE-TAIL	150±50		Low	- in area.	
1016	R.F. BOOBY	1		40'		
1017	R.T. TROPIC	1	SE	40'		
1018	SOOTY TERN	1	E	Low		



DATE 23 AUGUST 64  
Pg. # 3

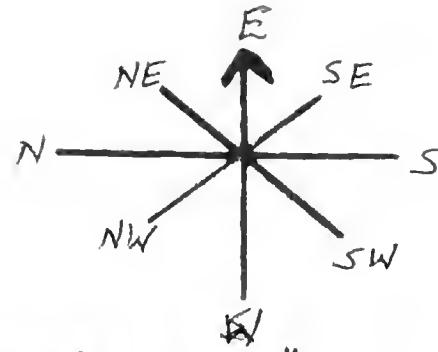
time	species	#	dir.	hgt.	remarks	loc.
1022	SOOTY TERN	4	E	60'		
1024	Wedgetail	2	<del>SW</del>	Low		
1025	"	3	"	"		
1027	SOOTY TERN	2	E	"		
1030	PTEROODROMA	1	N	Low	- ALL dark AS 0957 ENTRY	
1032	Frigate	1	<del>SW</del>			
1032	BONINS	10+	<del>SW</del>	Low		
1034	BONIN	15	"	Low		
1042	SOOTY TERN	1	SW	Low	- SITTING ON H <sub>2</sub> O IN GROUP	
1042	WEDGETAIL	10+	<del>SW</del>	Low		
1050	"	2	SE	Low	- in area.	
1050	BONIN	1	S	Low		
1052	SOOTY TERN	1	SW	60'		
1055	BONINS	30+	<del>SW</del>	Low		
1055	Wedgetail	1	"	Low	in area.	
1103	Boninus	15-20	<del>SW</del>	Low		
1105	Wedgetails	10+	"	"	CEASE ESTIMATES ON BONINS + WEDGETAILS	
1124	Bulwers Pet	1	S	Low		
1124	BONIN Is.	6	<del>SW</del>	"		
1133	Wedgetail	1	N	"		
1133					- CEASE OBSERVATION - Closes - SINGLE OBSERVER!	
1220					- Commence "	"
1220	SOOTY TERN	1	S	Low		
1220	" "	9	SE	"		
1220	WEDGETAIL	1	S	"		
1221	"	1	<del>SW</del>	Low		
1225	SOOTY TERN	2	<del>SW</del>	Low		
1227	" "	9	W	Low		
1230	WEDGETAIL	1	E	To 60'		
1237	"	1	<del>SW</del>	Low		
1237	FRIGATE	1	-	200'		
1240	SOOTY TERN	1	W	30'		
1244	R.-T. TROPIC	1	E	80'		
1247	Bulwers Pet.	1	NE	Low		
1255	BONIN Is. Pet	1	SE	"		
1256	SOOTY TERN	1	SW	40'		
1300	BONIN Is. Pet	1	SW	40'		
1305	WEDGETAIL	1	<del>SW</del>	Low		
1307	BONIN Is. Pet.	1	<del>SW</del>	"		
1311	BONIN Is. Pet	1	N	"		
1316	" " "	1	NW	"		
1321	SOOTY TERN	2	S	50'	- Flew over ship.	
1326	WEDGETAIL	1	SE	Low		
1329	WEDGETAIL	1	W	"		
1337	Bulwers Pet.	2	<del>SW</del>	"		
1345	BONIN Is.	1	S	Low		
1346	SOOTY TERN	1	S	20'		
1352	WEDGETAIL	2	<del>SW</del>	60'		
1401	BONIN Is. Pet.	1	<del>SW</del>	Low		
1404	WEDGETAIL	1	W	Low		
1407	BONIN Is.	1	SW	"		



DATE 23 August 64  
Pg. # 4

time	species	#	dir.	hgt.	remarks	loc.
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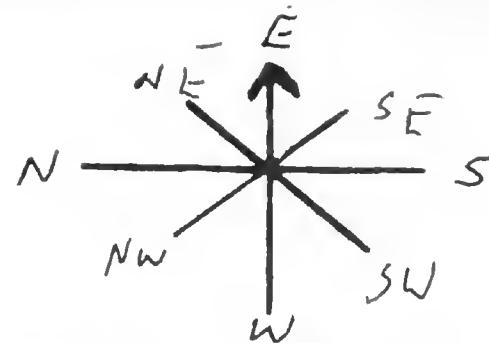
1411	R.T. TROPIC	1	—	0'	ON WATER	
1415	SOOTY TERN	3	NW	20'		
1415	FAIRY TERN	1	SE	50'		
1420	Bulwers Pet.	1	S	LOW		
1422	BONIN Is.	1	W/	LOW		
1427	" "	1	"	"		
1431	" "	1	SW	"		
1440	" "	1	"	"		
1455	" "	1	S	"		
1456	" "	1	S	"		
1458	WEDGE-TAIL	1	S	"		
1501	BONIN Is.	1	SW	"		
1506	WEDGE-TAIL	1	<del>SW</del>	"		
1512	BONIN Is.	1	<del>SW</del>	"		
1515	" "	1	SSW	"		
1516	" "	1	S	"		
1520	" "	1	SW	"		
1533	" "	1	W/	"		
1536	" "	1	W/	"		
1541	" "	3	SW	"		
1541	WEDGE-TAIL	1	<del>SW</del>	"		
1545	BONIN Is. Pet.	4	S	"		
1546	BONIN Is. "	1	S	"		
1546	" " "	1	NE	"		
1546	SOOTY TERN	1	S.	"		
1555	BONIN Is. PET.	1	SW	"		
1557	" " "	2	"	"		
1606	" " "	1	N	"		
1609	" " "	1	SW	"		
1612	" " "	1	W	"		
1612	" " "	1	SW	"		
1617	" " "	1	S	"		
1620	" " "	1	SW	"		
1622	" " "	1	S	"		
1625	SOOTY TERN	2	W	60'		
1626	BONIN Is.	1	S	LOW		
1628	SOOTY TERN	1	W	LOW		
1630	" "	2	SW	LOW		
1636	" "	1	SW	30'		
1636	BONIN Is. Pet	1	SW	30'		
1638	" " "	1	NE	LOW		
1639	" " "	1	S	"		
1642	Golden Plover	2	NE	40'		
1644	SOOTY TERN	1	NW	LOW		
1646	BONIN Is. Pet	1	<del>SW</del>	LOW		
1649	SOOTY TERN	1	S	"		
1651	BONIN Is. PET	2	S	"		
1651	" " "	1	NE	LOW		



DATE 22 AUGUST 64  
Pg. # 5

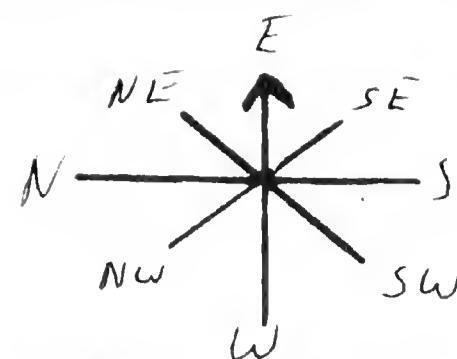
time	species	#	dir.	hgt.	remarks	loc.
1653	WEDGETAIL	1	NE	Low		
1656	BONIN Is. Pet.	1	SW	"		
1716	Bonin Is. Pet.	1	S	Low		
1717	Sooty TERN	1	S	60'		
1720	Sooty TERN	1	SW	50'		
1740	Wedgetail Sh.	1	S	Low		
1740	Sooty TERN	1	N	Low		
1750	Bonin Is. Petrel	1	N	Low		
1751	Wedgetail Sh.	1	N	Low		
1753	Bonin Is. Petrel	1	NW	Low		
1754	Pterodroma	1	W	Low		
1757	Wedgetail Sh.	1	S	Low		
1800	Wedgetail Sh.	1	S	Low		
1800	Sooty TERN	1	S	Low		
1802	" "	1	SE	90'		
1803	" "	1	NW	Low		
1803	Frigate	1	E	150	♀	
1805	B.-F. BOOBY	3	S	Low		
1812	Bulwer's Pet	1	SW	Low		
1815	Pterodroma	1	S	Low		
1815	BONIN Pet	1	NE	Low		
1816	BONIN (?) Pet.	1	S	Low		
1818	BONIN Pet.	1	S	Low		
1824	SCOTY TERN	3	SE	low		
1834	PTERODROMA	1	NE	Low		
1845	SOOTY TERN	2	SE	Low		
1854	BONIN Is. Pet	1	N	Low		
1856					- SUNSET!	

All foregoing observations made by  
J. D. Whitman (except 1716-1800 by R.H.M.)  
Other members of Pacific Project worked  
all previous night on Lisianski Is.



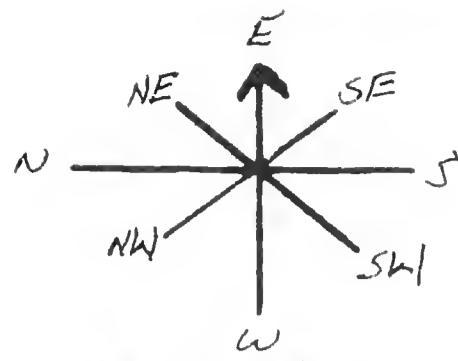
DATE 24 August 1964  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0600					Begin observations	
0602	Wedgetail	1	NNW	low		
0606	"	1	NNW	"		
0610	"	1	NNW	"		
0610	Bulwers(?)	1	W	"	All dark, Christmas Is. size (?) but not flight, no wing bars	
0614	Sooty Tern	1	N	"		
0619	Wedgetail	1	N	"		
0629	"	2	NW	"		
0629	Sooty Tern	2	NW	20'		
0634	Wedgetail	1	NNW	low		
0634	"	1	W	"		
0652	Bonin Is.	1	S	"		
0654	Bulwers	1	W	"		
0654	Wedgetail	1	S	"		
0702	"	2	W	"		
0707	Sooty Tern	1	SW	20'		
0714	Wedgetail	1	N	low		
0723	"	1	W	low		
0729	R.T. Tropic	1	E	40'		
0730	Bulwers	1	NNW	low		
0736	"	1	S	low	drifted by wind	
0738	"	1	NW	"		
0740						
0750					Rain squall	
0752	Ruddy Turnstone	1	NW	to 50'		
0755	Wedgetail	1	N	low		
0759	Sooty Tern	3	N	30'		
0812	Bonin Is.	1	W	low		
0827	Bulwers Pet	1	SSW	low		
0828	Wedgetail	1	NNW	low		
0830	Wedgetail	1	W	low		
0832	Bulwers Pet	1	WNW	low		
0840	Fairy Tern	1	NW	40'		
0841	Wedgetail	1	NNW	low		
0844	Bulwers Pet	1	S	low		
0847	Wedgetail	1	NNW	low		
0848	Bulwers Pet	1	S	low		
0850	Wedgetail	2	NNW	low		
0851	Wedgetail	1	SSW	low		
0855	Bulwers	1	NNW	low		
0856	Bulwers	1	NNW	low		
0904	Wedgetail	2	S	low		
0904	Bulwers	2	E	low		
0905	Wedgetail	2	S	low		
0908	Wedgetail	1	S	low		



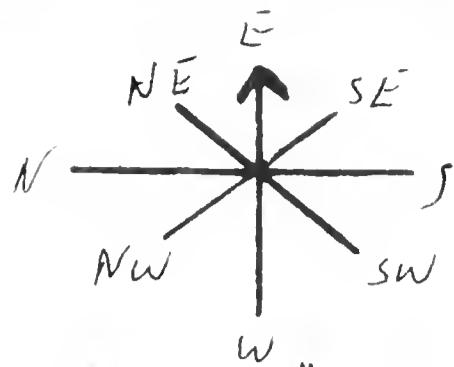
DATE 24 August 1964  
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
25-225	WedgeTail	1	SW	low		
0920	WedgeTail	1	NNW	low		
0926	Bulwer's Pet	1	NE	low		
0938	WedgeTail	1	ESE	low		
0939	WedgeTail	1	NL	low		
0940	WedgeTail	1	NNW	low		
0945	Bulwer's Pet	1	NW	low		
0946	WedgeTail	1	NNW	low		
0946	Ruddy Turnstone	1	N	low		
1000	Bulwer's Pet	1	NW	low		
1005	Bonin Is. Pet	1	W	low		
1006	Bulwer's	1	SE	low		
1009	HARCOORTS	3	E	low		
1009	WEDGE TAIL	1	NE	low		
1015	WEDGE TAIL	1	NW	low		
1016	HARCOORTS	1	E	low		
1021	WEDGE TAIL	1	NNW	low		
1024	HARCOORTS	1	NE	low		
1025	SOOTY TERN	3	SE	50'		
1030	WEDGE TAIL	1	NE	low		
1036	BONIN IS. PET	1	N	low		
1041	B.F. BOOBY	1	N	low		
1044	WEDGE TAIL	1	N	low		
1045	"	1	N	"		
1056	Bulwers Pet	1	NW	low		
1057	WEDGE TAIL	1	NE	low		
1059	WEDGE TAIL	1	SW	low		
1102	"	1	NE	low		
1103	"	1	"	low		
F 1105	WEDGE TAIL SOOTY TERN	175 ± 15 50 ± 10			- CROSSING NORTHERN LIMIT OF 'RAITA BANK' - NO SOUNDINGS - (MORE THAN 1000 FATHOMS) CAPT. SAYS BANKS CAN often be Located by flocks of Birds at sea + has seen them previously AROUND MEXICO. Flock not seen to actively feed!	
1123	WEDGE TAIL	1	SW	low		
1129	SOOTY TERN	1	NW	low		
1135	WEDGE TAIL	1	NE	low		
1140	WEDGE TAIL	1	NW	low		
1144	WEDGE TAIL	1	NW	low		
1145	WEDGE TAIL	1	NW	low		
F 1147	SOOTY TERN FAIRY TERN WEDGE TAIL	30 ± 10 2 25 ± 10			- Not seen actively feeding however flock about $\frac{1}{2}$ mi distant and sea high.	
1157	WEDGE TAIL	1	NE	low		
1205	WEDGE TAIL	1	NW	low		
1210	Sooty Tern	1	N	low		



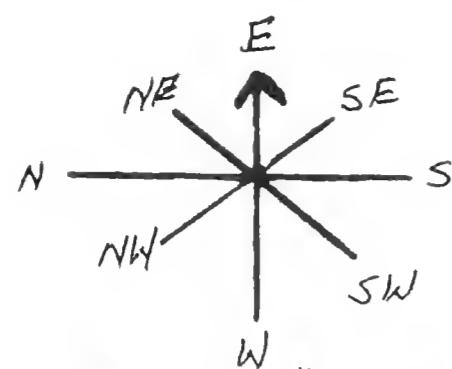
DATE 24 August 1964  
Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
1224	Sooty Tern	1	W	70'		
1226	Wedgetail	2	NW	low		
1234	7 Mgate	1	W	low		
1240	Bulwers	1	N	"	Imm.	
1242	"	1	SE	"		
1244	Wedgetail	1	W	"		
1252	Bulwers	1	NW	"		
1253	Wedgetail	1	N	"		
Flock	1307	Wedgetail	1	{ 5	"	- not feeding
	Bulwers	5				
1312	Wedgetail	2	NW	" 36'		
1315	Wedgetail	2	<del>NW</del> W	630'		
1322	Wedgetail	2	W	630'		
1322	Wedgetail	1	NW	low		
1325	Wedgetail	1	<del>NW</del> W	low		
1328	Wedgetail	1	NW	low		
1330	Sooty Tern	1	<del>NW</del> W	50'		
1339	Great Frigate	2		300'	♀ + imm circling high above ship under same conditions as the imm. sighted at 1234, that is to say, there was a large cloud bank to the port side, raining, no other birds around	
1342	Wedgetail	1	E	low		
1358	Wedgetail	1	E	low		
1400	Wedgetail	2	W	low		
1438	Bulwers	1	S	"		
1440					Ship slowed, on course.	
1452	Bulwers	1	NW	low		
1459	Gr. Frigate	1	S	50'		
1500	"	4	<del>NE</del> E	1-300	imm; } followed near ship for 5 mins.	
1505	Wedgetail	1	E	low	imm; } Group of 4 remained higher & apart	
1506					resume from first ind. sighted.	
1511	Sooty Tern	1	S	low		
1513	Bulwers	2		sitting on water		
1524	Wedgetail	1	W	low		
1525	Bulwers	1	W	low		
1536	Wedgetail	1	SW	low		
1547	Sooty Tern	6	E	60'		
1605	<del>Booby</del> Booby	1	S	low		
1618	BONIN Is. P.R.	1	<del>SSW</del> SW	low		
1703	Harcourt S.P.	1	NE	low		
1702	Wedgetail	1	S	low		
1712	Wedgetail	2	E	low		



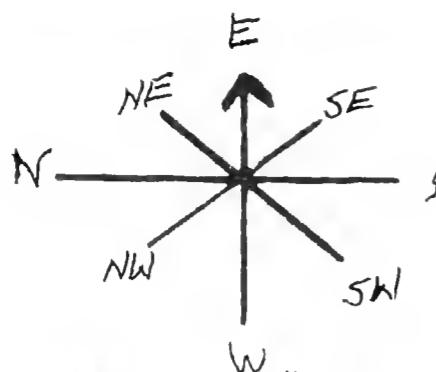
DATE 24 August 1964  
Pg. # 4

time	species	#	dir.	hgt.	remarks	loc.
1725	BONIN Is. Petrel	1	E	low		
1753	BONIN Is. Pet.	1	S	low	WILL BE PASSING GARNER PINNACLES AT SUNSET.	
1802	WEDGETAIL	1	<del>SW</del>	low	BOT MOLES N. (1900)	
1803	WEDGETAIL	1	W	low		
1804	SOOTY TERN	2	S	20'		
1812	WEDGETAIL	2	S	low		
1815	WEDGETAIL	1	S	low		
1816	"	1	"	"		
1818	"	1	W	"		
1823	BULLERS Pet	1	S	low		
1834	SOOTY TERN	2	NE	70'		
1840	— — —	— — —	— — —	— — —	APPARENT SUNSET.	



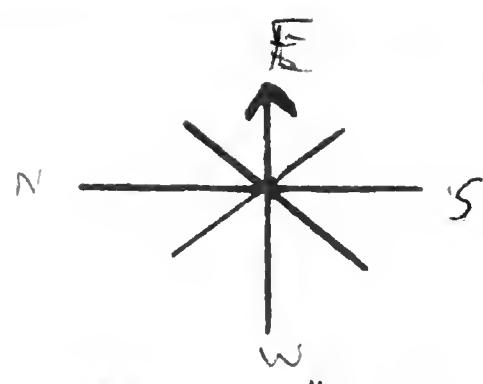
DATE 25 AUGUST 64  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0600	- - - - -	-	- - -	- - -	commence observations - SUNRISE - 0550 CA.	
0605	WEDGETAIL	1	SW	LOW		
0606	FAIRY TERN	1	E	LOW		
0608	WEDGETAIL	1	SW	LOW		
0610	WEDGETAIL	1	<del>SW</del>	LOW		
0612	"	1	SW	LOW		
0619	Bulwers	1	NE	LOW		
0621	WEDGETAIL	2	S	LOW		
0641	WEDGETAIL	1	SE	LOW		
0645	SHEAR - PET	1	W	LOW		
0646	Bulwers Pet.	1	NE	"		
0653	WEDGETAIL	1	SW	"		
0658	WEDGETAIL	1	W	"		
0700	WEDGETAIL	1	SW	"		
0700	"	2	S	"		
0700	"	1	W	"		
0701	"	1	E	"		
0702	"	1	SW	"		
0707	"	1	S	"		
0707	"	1	S	"		
0707	"	1	S	"		
0711	"	1	S	"		
0714	"	1	S	"		
0714	"	1	S	"		
0715	"	1	S	"		
0715	"	1	S	"		
0715	"	1	S	"		
0716	"	3	S	"		
0717	"	1	S	"		
0718	"	1	N	"		
0718	"	1	N	"		
0718	SOOTY TERN	2	SE	100'		
0719	" "	2	SW	LOW		
0719	WEDGETAIL	1	S	"		
0720	"	1	NW	"		
0721	"	1	<del>SW</del>	"		
0721	"	1	SW	"		
0738	"	1	SW	"		
0744	"	1	W	"		
0750	"	1	N	"		
0751	"	1	N	"		
0755	"	1	N	"		
0755	"	1	E	"		
0800	"	1	N	"		
0801	"	2	N	"		
0801	"	1	N	"		



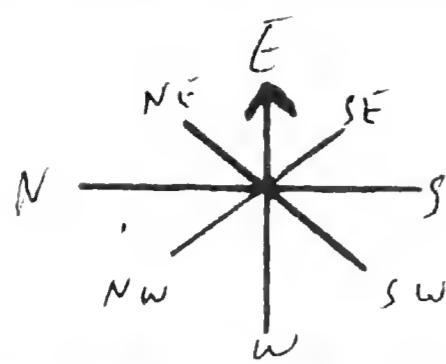
DATE 25 Aug 64  
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
2002	Wedge-tail	1	N	low		
0805	"	1	NW	"		
0807	"	1	<del>SE</del>	"		
0816	Tropic (R-T)	1	Following Ship		Circling ship	
0816	Sooty Tern	1	"	"	at 100'	
0850	Wedge-tail	1	NW	low	75'	
0852	"	1	NW	"		
0853	"	1	NW	"		
0855	Sooty Tern	2	W	"		
0910	Bulwers' P.	1	E	"		
0915	Sooty Tern	1	N	50'		
0919	Wedge-tail	1	W	low		
0919	"	1	Sitting on water			
0934	Bulwer's Petrel	1	NW	low		
0939	Bulwer's	1	E	low		
0940	Wedge-tail	1	NW	low		
1010	Wedge-tail	1	N	"		
1022	Wedge-tail	1	NW	"		
1024	Wedge-tail	1	NW	"		
1106	Bulwers	1	NNW	"		
1128	Shear-Pet	1	N	"	distant	
1144	Sooty Tern	2	NNE	"		
1204	BULWERS	1	N	"		
1216	WEDGE-TAIL	2	<del>SE</del>	"		
1217	WEDGE-TAIL	1	"	"		
1218	"	1	"	"	SHIP SLOWED	
1234	- - -	-	-	-	-	
1237	WEDGE-TAIL	1	W	"		
1238	- - -	-	-	-	- RESUME SPEED ON COURSE	
1243	R.-T. TROPIC	1	E	low	- sitting on H <sub>2</sub> O.	
1245	WEDGE-TAIL	1	<del>SE</del>	low		
1250	"	1	W	"		
1256	SOOTY TERN	1	SE	60'		
1259	BULWERS	1	W	LOW		
1316	R-T Tropic	1	SE	"	sitting on water	
1334	BULWERS	1	E	low		
1335	R.-T. TROPIC	1	E	70'		
1336	WEDGE-TAIL	1	S	low		
1349	SOOTY TERN	8	S	40'		
1350	" "	2	N	low		
1357	WEDGE-TAIL	1	<del>S</del>	"		
1359	BULWERS	1	N	"		
1415	Bulwer's Pet	1	W	" low,		
1445	Fairy Tern	1	E	30'		



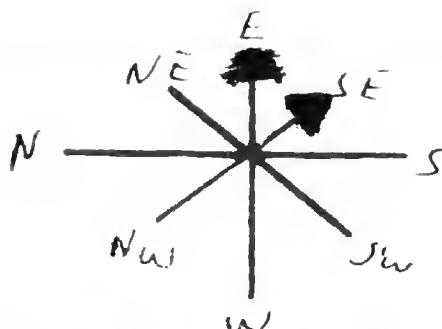
DATE 25 August 1964  
Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
1446	Wedgetail	1	S	low		
1556	Bulwer's	2	E	low		
1627	Sooty Tern	2	W	low		
1702	Shear Pct	1	WSW	low		
1717	Bulwer's	1	E	low		
1720	Masked Boob	1	SSE	low		
1721	Sooty Shear-water	1	SSE	low	P.W. all black, white wing lining high breeding.	
1726	Shear Pct	1	E	low	Sooty Shearwater.	
1743	Bulwer's	1	N	low		
1755	Bonin I.	1	S	low		
1805	Sooty Shear	1	ESE	low		
1820					Sunset	



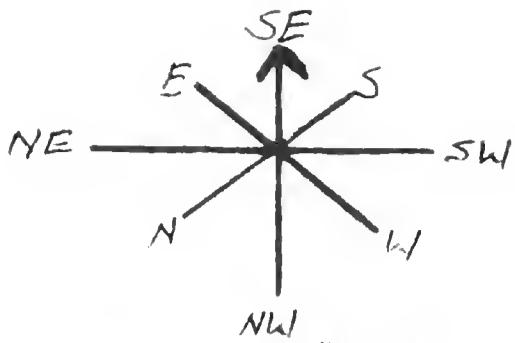
DATE 26 August 1964  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0553						
6-6	0557 Bulwer's	1	S	low		
23-62	0557 Wedgetail	1	W	low		
3-5	0600 Bulwer's	1	NW	low		
0603	R-T Tropic	1	NE	<del>too</del> 60'		
0603	Bulwer's	1	E	low		
0608	Wedgetail	1	NW	low		
0608	Newell's	1	E	low		
0608	Wedgetail	1	NW	low		
0615	R-F Booby	1	W	low - adult		
0618	Bulwer's	1	W	low		
0623	Wedgetail	1	W	low		
0624	Wedgetail	1	NNW	low		
0625	R-F Booby	1	NNW	low - adult		
0625	Wedgetail	1	NNW	low		
1-1	0633 Shear-tailed	1	NW	low		
0634	R-F Booby	2	NW	low	adult + immature	
0634	R-F Booby	2	NNW	low	adult + immature	
0640	Wedgetail	20	NNW	low -		
0640	R-F Booby	1	NNW	low - adult	Loose group spread out but heading in same direction rapidly - straight line probably start of flock formation / feeding	
2-2	0641 R-T Tropic bird	1	E	50'		
0644	Wedgetail	3	NW	low		
0645	Wedgetail	1	NW	low		
0645	R-F Booby	1	NNW	low -	adult	
0653	Wedgetail	2	NW	low		
0655	Wedgetail	3	NW	low		
0655	Booby	1	NW	low		
0656	Wedgetail	1	NW	low		
0659	Tern	2	NW	50'		
0702	Wedgetail	2	E	low		
0703	R-F Booby	1	NW	low - adult		
0713	Wedgetail	1	NW	low		
0713	R-F Booby	1	NW	low	subadult	
0714	Wedgetail	5	NW	low		
0720	Wedgetail	3	NW	low	loose group	
0723	Sooty? Shear	1	NW	low		
0726	R-F Booby	1	NW	low	adult	
0726	Wedgetail	4	NW	low		
0732	Wedgetail sh.	2	NW	low		
0733	Wedgetail	1	NW	low		
0735	Wedgetail	2	NW	low		
0735	R-T Tropic	1	E	60'		
0737	Wedgetail	2	NW	low		
0739	Wedgetail	3	NW	low		
0739	Bulwer's Pet	1	W	low		
0745	Wedgetail	1	NW	low		
0745	Bulwer's	1	E	low		



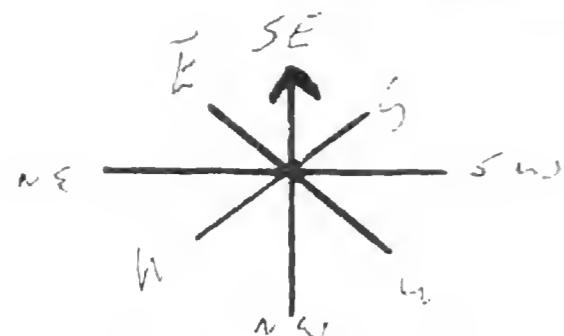
DATE 26 August 1964  
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
15-51	C753	Wedgetail	18	NW	low	
15-52	C755	R-Foot Booby	9		low	8 adult / 1 immadult
		Gr Frigate	2		100'	
		Wedgetail	15		low	
L7222		Bulwer's	6		1	dead whale nearby causing oil slick.
		Honeycreeper	1			not seen to feed actively.
1-2	0750	Bonin Pet	2	S		
5-10	0825	Xmas Is Sh	1	NE	low	
1-12	0826	Scaly TERN	2	E	10'	
	0826	WEDGE-TAIL	7		0' to 100'	- arose from H <sub>2</sub> O
	0826	Bulwers	1		low	
	0830	WEDGE-TAIL	1	N	low	
	0831	"	1	NW	low	45 MILES FROM NIHOA
	0835	BULWERS	1	N	"	
	0838	WEDGE-TAIL	1		"	
	0840	BULWERS	1		low	
	0840	X-MAS Is. SHEAR	1	NW	low	
	0844	BULWERS	1		low	
	0845	X-MAS Is. SHEAR	1	NW	low	
	0846	WEDGE-TAIL	1		low	
	0852	"	2	NW	low	
	0854	"	1	NW	low	
	0854	BULWERS Pet.	1	SW	"	
	0855	WEDGE-TAIL	1	NE	"	
	0900	BULWERS PET	1	N	"	
	0901	WEDGE-TAIL	4	N	"	
	0903	"	1	N	low	- in strong
	0905	X-MAS Is. SHEAR	1	N	"	
F	0909	X-MAS Is.	2		"	
		WEDGE-TAIL	3		"	
		Noody sp.	10		"	
	0913	BULWERS PET.	1	N		
	0915	WEDGE-TAIL	2		low	
	0918	BULWERS PET	1	SE	"	
	0921	R-T. Tropic	1	SE	"	
	0922	BULWERS Pet.	1	NE	"	
	0924	"	1	SE	"	
	0927	"	1	N	"	
	0929	"	1	N	"	
	0930	WEDGE-TAIL	1		"	
	0931	BULWERS	1		"	
	0936	"	1	SE	"	
	0940	"	1	NW	"	
	0942	"	1	NW	"	
			1	NE	"	



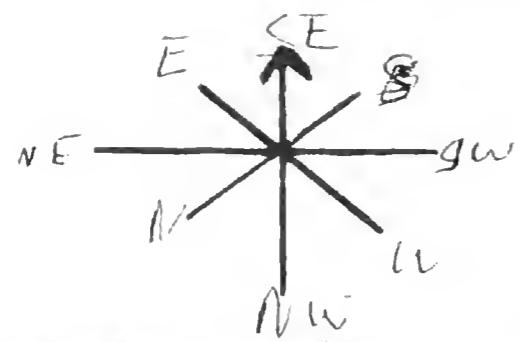
DATE 26 August 64  
Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
0945	BULWERS PET.	1	S	Low		
0947	FAIRY TERN	2	N	50'		
0955	WEDGE-TAIL	1	SE	Low		
0956	SHEAR - PET	1	—	—		
0959	BULWERS PET.	1	SW	Low		
1000	WEDGE-TAIL	1	SE	Low		
1001	BULWERS PET.	1	N	Low		
1002	" "	1	SE	Low		
1011	"	1	NE	"		
1014	Wedge-tail	1	N	"		
1015	"	1	S	"		
1022	"	2	E	"		
1023	FAIRY TERN	1	NE	20'		
1023	" "	1	N	20'		
1025	WEDGE-TAIL	1	SE	Low		
1025	BULWERS	1	NE	Low		
1035	BULWERS	1	SW	"		
1037	Booby	4	NE	"	R-F. or B-F.	
1040	Bulwers	1	N	"		
1040	Frigate	2	NE	100'		
1041	FAIRY TERN	2	NE	20'		
1045	" "	1	E	20'		
1048	Bulwers	1	NE	(rw)		
1050	"	1	SE	"		
1052	Fairy Tern	1	E	20'		
1056	Fairy tern	1	E	10'		
1057	Bulwers	1	SE	Low		
1058	Fairy tern	1	E	20'		
Flock	1100	Wedge-tail	350, 150		No feeding; many wedge-tails sitting on water	
		Bulwers	10±2			
		Fairy Tern	4			
2-3		Blue-Gray Noddy	2			
+10		Common Noddy	70±20			
1-3		Masked Booby	3			
1-2		Brown Booby	2			
WT		Frigate	7			
		Sooty Tern	1			
	1112	Bulwers	2	SE	Low	
+1+	1116	Bonin(?) Petrel	1	W	Low	
	1117	Wedge-tail	1	NNW	Low	
+1+	1120	R.F. Booby	1	N	Low	
	1120	Wedge-tail	4	W	Low	
	1120	Blue-gray Noddy	1	SE	Low	feeding? Hovering near surface, al most tail striking



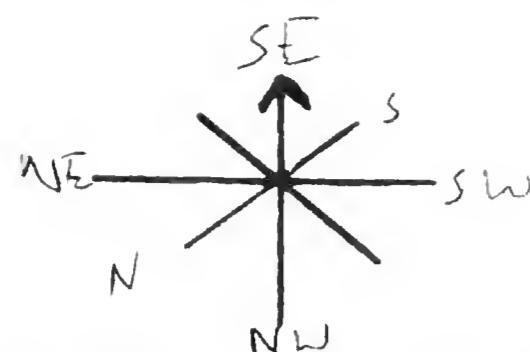
DATE 26 August 64  
Pg. # 4

time	species	#	dir.	hgt.	remarks	loc.
1143	Fairy Tern	1	E	20'		
1145	" "	1	SE	20'		
1146	wedgetail	4	N	low	Two flock	
1146	Bulwers	1	E	low		
1146	Wedgetail	1	E	low		
1148	Bulwers	1	SE	"		
1149	Wedgetail	2	N	"		
1153	"	2	N-NW	"		
1154	"	1	NW	"	Dark phase	
1155	"	1	SE	"		
1155	"	1	SE	"		
1156	Fairy Tern	1	NW	"	feeding	
1157	Bulwers	?	NW	"		
1157	wedgetail	1	SE	"		
1157	Fairy Tern	1	E	20'		
1140	sooty tern	2	S	20'		
1141	wedgetail	4	S	low		
1142	Frigate	1	E	150'		
1144	Wedgetail	1	S	low		
1146	Bulwers	1	NE	"		
1149	Wedgetail	1	SW	"		
1150	"	1	NW	"		
1152	Fairy Tern	1	E	10'		
1153	Bulwers	1	SW	low		
1154	"	1	"	"		
1155	Fairy Tern	1	E	10'		
1156	" "	1	E	20'		
1156	" "	1	E	10'		
1200	Bulwers	1	SE	low		
1205	Bulwers	1	NW	low		
1208	Fairy Tern	2	SSW	30'		
1209	wedgetail	1	SE	low		
1209	Bulwers	1	SE	low		
1212	Big-b. Noddy	1	SE	low		
1212	Wedgetail	1	SE	low		
1213	Big-b. Noddy	1	SW	low		
1215	Bulwers	3	SE	low		
1216	Fairy Tern	1	SE	low		
1220	Wedgetail	2	SW	low	dark phase	
1226	Wedgetail	1	NW	low		
1227	Fairy Tern	2	SE	low		
1230	<del>Frigate</del>	1	SW	Low → 20	- Ad. ♀	
1230	Wedgetail	1	SSW	low		



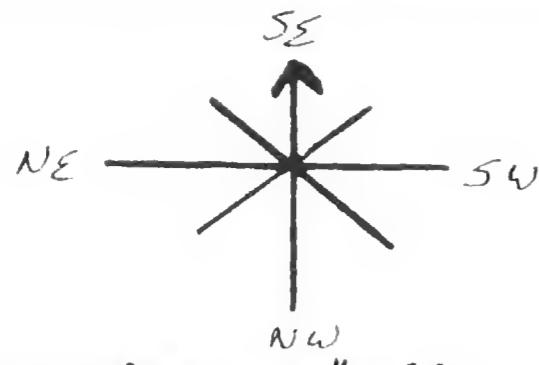
DATE 26 August 1961  
Pg. # 5

time	species	#	dir.	hgt.	remarks	loc.
2:33	Newell's Sk	1	SSE	low		
2:44	Wedgetail Sh	2	NW	low		
2:55	Sooty Tern	1	E	60'		
1236	Wedge-tail	1	NW	low		
1236	Tern	1	W	50'		
1236	Sooty Tern	1	SE	low		
1240	Wedge-tail	4	NW	low		
1241	Wedge-tail	60+				
1252	Can Noddy	50+		low	appeared to be following fish more than however many birds within a H-20	
1250	Newell's	2				
2:55	Xmas Is.	1				
2:58	Red-foot Booby	12			1 imm. chick	
	Sooty Tern	2				
1300	Bulwer's	2	SE	NW		
1305	Bulwer's	1	SE	low		
1306	Wedge-tail	1	W	low		
1310	Wedge-tail	1	NW	low		
1312	Bulwer's	1	SW	low		
1318	Can. Noddy	2	NE	low		
1325	Shear. Pet	1	SSE	low		
1327	Bulwer's	1	NW	low		
1329		1				
1337	Bulwer's Pet	1	NW	low		
1338	Fairy Tern	1	ENE	40'		
1340	Bulwer's	1	NW	low		
1350	Bulwer's	1	SE	low		
1405	Wedge-tail	2	NW	low		
1407	Bulwer's	1	SW	low		
1407	Red-foot B.	1	SW	low		
1420	Christmas Is.	1	SW	low		
1424	Bulwer's P.	1	S	low		
1430	"	1	S	low		
1430	Booby	1	N	low		
1431	Red-foot	1	N	low		
1431	Bulwer's	2	S	low		
1434	"	1	S	low		
1442	"	1	W	"		
1443	"	1	SW	20'		
1446	Fairy Tern	1	NE	low		
1446	Red-foot	1	N	low		
1450	Bonx. "	1	NE	low		
1452	Fairy Tern	1	NE	20A		
1453	Intermediate	3	SW	low		
1455	Bulwer's P.	1	NW	low		



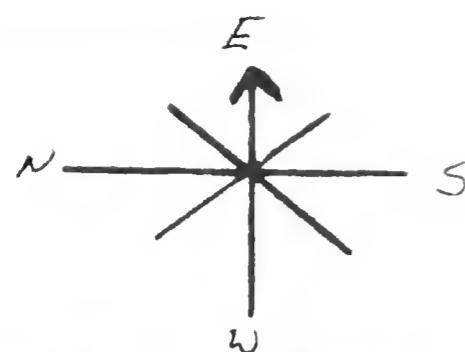
DATE 26 Aug 64  
Pg. # 6

time	species	#	dir.	hgt.	remarks	loc.
3:32 1505	Red-Footed Booby	2	SE	30±5	Flock moving NNE	
1505	Fairy Terns	6				
1512	Wedgetail	400±50				
1517	Bulwer's	3				
1520	Wedgetail	1	NW	Low		
1523	Fairy Tern	1	SW	?		
1524	Bonin Is.	1	SW	low		
1525	Bulwer's	1	SE	low		
✓ 1529	Red-Tail Tropic	1		Following Ship		
1530	Fairy Tern	1	ES	50'		
1542	Wedgetail	1	S	low	Dark phase	
1545	Bulwer's	1	S	low		
1548	Bulwer's	1	NW	low		
1556	Bulwer's	1	NE	Low		
1600	BONIN IS	1	SW	Low		
1600	Bulwer's	1	S	low		
1603	"	1	S	low		
1604	R.-F. Booby	1	W	"		
1604	Fairy Tern	1	NE	20'		
1604	R.F. Booby	1	NW	low		
1607	Fairy Tern	1	NE	20'		
1607	Wedgetail	1	NW	low		
1608	"	1	NW	low		
1608	Bulwers	1	NW	low		
1612	"	1	SSE	"		
1614	shear. Pet	2	SW	"		
1624	Bulwers	1	NW	"		
1630	Wedgetail	1	S	"		
1630	Fairy Tern	1	E	"		
1630	Wedgetail	2-3	E	"	} flock	
1634	Bulwers	1	E	"		
1634	"	1	SE	"		
1642	Wedgetail	1	IE	"		
1644	Fairy Tern	1	NE	"		
1645	Bulwers	1	NW	"		
1647	Bulwer's	1	NW	low		
1653	Wedgetail Sh	1	NW	low		
1655	Sooty Tern	1	NNW	*60'		
1700	Wedgetail	1	NW	low		
1705	Wedgetail	1	NW	low		
1713	Wedgetail	1	SE	low		
1715	Bulwers	1	NW	low	Whole wings black w/ C. wing feathering L 30	



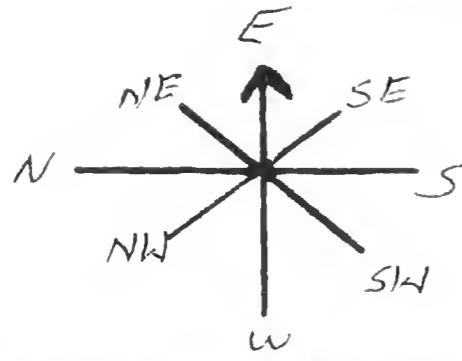
DATE 26 August  
Pg. # 7

time	species	#	dir.	hgt.	remarks	loc.
1718	Fairy Tern	1	E	50'		
1719	Sooty Tern	1	NW	low		
1721	Clear-Patched	1	S	low		
1722	Fairy Tern	1	E	20'		
1724	Brid	1	E	low		
1724	Fairy Tern	1	E	20'		
1725	" "	1	NW	15'		
1726	" "	1	W	30'		
1727	Wedgetail	1	S	low		
1734	"	1	S	"		
1736	Fairy Tern	1	NE	"		
1736	" "	1	NE	30		
1740	R.F. Booby	1	NW	to 30'		
1745	Wedgetail	1	SE	to 20'		
1746	"	2	N	low	2 joined	
1746	Fairy Tern	2	NE	20'		
1749	wedgetail	1	S	low		
1749	Fairy Tern	1	NE	20'		
1750	Wedgetail	1	S	low		
1750	"	1	N	low		
1752	Bulwers(?)	1	NE	"		
1753	Bulwers	1	SW	"		
1800	Sooty Tern	1	E	50'		
1801	Bulwers	1	NE	low		
1801	"	1	SE	"		
1805					→ sunset; slight green glow	
1806	Wedgetail	1	NW	low		
1806	"	1	NW	low		
1806	Sooty Tern	1	N	100'		



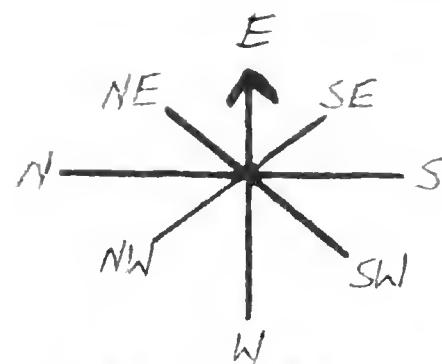
DATE 27 August 1869  
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0645					begin observations - sun up, Oahu visible	
0650	Shear-Pet	7	E	low	Wedge-tails or Newells ahead, Kauai behind (darker)	
0657	Newells	1	E	low		
0657	Newells	5	E	low		
0657	Shear-Pet	8	E	low		
0659	Wedge-tail	2	E	80'	"	
0700	Wedge-tail	21	E	"	"	
0700	Newells	4	E	"		
0700	Shear-Pet	6	E	"	"	
0701	Newells	4	ESE	"	"	
0701	R.F. Booby	1	ESE	"		
0701	Wedge-tail	2	E	"		
0702	Newells	2	ESE	"		
0702	Shear-Pet	2	ESE	"	"	
0703	Newells	1	E	"		
0703	Wedge-tail	1	E	"		
0706	Newells	1	E	"		
0706	Shear-Pet	4	E	"	"	
0706	Wedge-tail	1	E	"		
0706	W.T. Tropic	1	N	50'		
0707	Newells	1	E	low		
0708	Bulwers	6	E	"		
0708	Newells	2	E	"		
0708	Shear-Pet	4	E	"	"	
0708	Wedge-tail	1	E	"	"	
0712	"	1	E	"		
0712	"	2	E	"		
0712	Newells	2	E	"		
0712	"	1	E	"		
0715	Wedge-tail	1	SE	"		
0716	Newells	7	ESE	"		
0720	"	6	ESE	"		
0720	Shear-Pet	1	S	"	"	
0723	Newells	1	ESE	"		
0723	Wedge-tail	1	E	"		
0725	Wedge-tail	1	E	"		
0725	Wedge-tail	1	SE	"		
0725	"	1	SE	"		



DATE 27 August 64  
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
5-6	Bulwers	1	SE	low		
6-10	Sooty Pet	1	E	"		
13-17	Newells	1	SE	"		
	"	2	SE	"		
13-17	wedgetail	1	SE	"		
	Shear-Pet	2	SE	"		
	Newells	2	E	"		
	Bulwers	1	SE	"		
	wedgetail	1	SSE	"		
	Newells	1	SE	"		
	Bulwers	1	SSE	"		
	wedgetail	1	SE	"		
	Shear-Pet	2	SE	"		
2-7	BONIN IS.	1	SE	"		
	Bulwers	2	E	"	got up off water	
	"	1	NZ	"		
	Newells	1	E	"		
	wedgetail	1	SSE	"		
	"	1	E	"		
	Shear-Pet	2	SE	"		
	wedgetail	1	E	"		
	Breeding sp.	1	SE	"	RF or BF	
	wedgetail	1	SE	"		
	Newells	1	E	"		
	Shear-pet	2	SSE	"		
	wedgetail	1	SE	"		
	Shear-Pet	1	SE	"		
	Newells	1	SE	"		
	"	3	E	"	-1 sitting on water	
	WEDGETAIL	3	E	"		
	W-T. TROPIC	1	E	80'		
	NEWELL'S	1	SE	low		
	BONIN IS. Pet	1	S	"		
	WEDGE-TAIL	1	NW	"		
	NEWELL'S	1	SE	"		
	WEDGE-TAIL	1	E	"		
	NEWELL'S	1	E	"		
	"	1	S	"		
	"	1	S	"		
	WEDGE-TAIL	2	E	"		
	"	2	E	"		



DATE 27 AUG 64  
Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
4-4	NEWELL'S	1	E	low		
	"	1	S	"		
22-39	WEDGETAIL	1	S	"		
	NEWELL'S	1	S	"		
0907	WEDGETAIL	1	NW	"		
0909	WTropic	1	E	"		
0919	Wedgetail	1	E	"		
3-3	Shear-Pet	1	E	"		
	" "	1	SE	"		
2-2	Bolwers	1	E	"		
	WEDGETAIL	1	S	"		
0936	SHEAR-PET	1	SE	"		
0939	BONIN Is. Pet	1	E	"		
0944	" "	1	E	"		
0945	WEDGETAIL	1	E	"		
0952	NEWELL'S	1	S	"		
0953	WEDGETAIL	1	E	"		
0958	"	1	S	"		
0959	"	1	S	"		
+T	Noddy sp.	1	SE	"		
1002	WEDGETAIL	2	N	"		
1006	WEDGETAIL	1	E	"		
1012	Wedgetail	2	E	low		
1012	Wedgetail	3	SE	low		
1013	Wedgetail	3	G	low		
1016	Wedgetail	1	E	low		
1018	Wedgetail	1	E	low		
1045	Wedgetail	1	E	low		
1055	Wedgetail	1	E	low		
1108	Wedgetail	1	E	low		
1120	W-Tail Tropic	1	W	60'		
1123	Wedgetail	1	E	low		
1130	Bulwer's Pet	1	S	low		
1133	Wedgetail	5	G	low		
1133	Com Noddy	3	E	low		
1133	Wedgetail	3	S	low		
1137	Newell's Sh	1	S	low		
1140	Wedgetail	3	S	low		
1140	Com Noddy	1	NNW	low		
1145	Com Noddy	3	S	low		
1150	Com Noddy	3	S	low		
1155	Com Noddy	3	S	low		

DATE THUR Aug 27, 1964

Time at sunrise = 0619 Position at sunrise =  $21^{\circ}37'N$   $159^{\circ}08'N$

Time at sunset = <sup>NOON</sup> 1200 Position at sunset =

Miles traveled from 0000 hours to sunrise = 57

Miles traveled from sunrise to <sup>NOON</sup> sunset = 53 till 1200

Miles traveled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	1200	VIS	$158^{\circ}11'W$	$21^{\circ}17'N$
2.				
3.				
4.				
5.				
6.				

DATE

Time at sunrise = Position at sunrise =

Time at sunset = Position at sunset =

Miles traveled from 0000 hours to sunrise =

Miles traveled from sunrise to sunset =

Miles traveled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.				
2.				
3.				
4.				
5.				
6.				

DATE 3, Aug 1964

Time at sunrise = 0605 Position at sunrise = HT Dock  
Time at sunset = 1916 Position at sunset = 20-41N 159-32W  
Miles traveled from 0000 hours to sunrise = NONE  
Miles traveled from sunrise to sunset = 101  
Miles traveled from sunset to 2400 hours = 54

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	1200	CELESTIAL	169-20W	21-05N
2.	1630	LORAN	159-10W	20-51N
3.	2000	LORAN	159-43W	20-37N
4.	2400	LORAN	160-27W	20-22N
5.				
6.				

DATE 4, Aug 1964

Time at sunrise = 0553 Position at sunrise = 161-27W 19-58N  
Time at sunset = 1826 Position at sunset = 163-07W 19-19N  
Miles traveled from 0000 hours to sunrise = 61  
Miles traveled from sunrise to sunset = 103  
Miles traveled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0500	CELESTIAL	161-10W	20-03N
2.	0800	LORAN	161-44W	19-49N
3.	1200	CELESTIAL	162-10W	19-42N
4.	1600	LORAN	162-42W	19-28N
5.	1900	CELESTIAL	163-14W	19-18N
6.	2300	LORAN	163-42W	19-02N

DATE 5 Aug 1964

Time at sunrise = 0540 Position at sunrise = 18-36N 164-48W  
 Time at sunset = 1841 Position at sunset = 17-42N 166-54W  
 Miles traveled from 0000 hours to sunrise = 57'  
 Miles traveled from sunrise to sunset = 131  
 Miles traveled from sunset to 2400 hours = 58

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0000	Loran	164°01'W	18°51'N
2.	0500	CELESTIAL	164 43W	18 39 N
3.	0900	Surf Loran	165°23'W	18°21'N
4.	1200	Loran	165°52'W	18°08'N
5.	1400	Surf/Loran	165 <sup>00</sup> <sub>15</sub> 'W	18°N ✓
6.	1900	CELESTIAL	166-58W	17-44 N ✓

DATE 6 Aug 1964

Time at sunrise = 0558 Position at sunrise = 16-58N 168-50W  
 Time at sunset = 1845 Position at sunset = 15-25N 169-07W  
 Miles traveled from 0000 hours to sunrise = 62  
 Miles traveled from sunrise to sunset = 118  
 Miles traveled from sunset to 2400 hours = 49

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0600	Loran	167°51'W	17°21'N ✓
2.	0530	CELESTIAL	168-45W	17-01 N ✓
3.	0900	Visual	169-18W	16-44 N ✓
4.	1000	"	169-28W	16-39 N ✓
5.	2100	Loran	169-03W	15-05 N ✓
6.	2400	Loran	168-52W	14-38 N

DATE Friday Feb 7, 1964

Time at sunrise = 0601 Position at sunrise = 13-56N 169-20W  
Time at sunset = 1846 Position at sunset = 12-31N 170° 50'W  
Miles traveled from 0000 hours to sunrise = 55  
Miles traveled from sunrise to sunset = 120  
Miles traveled from sunset to 2400 hours = 53

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1. 0400	LORAN	169-15N	13-56N ✓
2. 0600	CELESTIAL	169-20W	13-56N ✓
3. 1200	Celestial	170°02'W	13°19'N ✓
4. 1900	CELESTIAL	170-52W	12-30 N
5.			
6.			

DATE Sat Feb 8, 1964

Time at sunrise = 0613 Position at sunrise = 13-00N 171-38W  
Time at sunset = 1848 Position at sunset = 14-16N 170-38W  
Miles traveled from 0000 hours to sunrise = 51  
Miles traveled from sunrise to sunset = 100  
Miles traveled from sunset to 2400 hours = 44

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1. 0100	Loran	171°43'W	12°27'N
2. 0600	CELESTIAL & LORAN	171-40W	12-59N
3. 1200	Celestial	171°54'W	13°22'N
4. 1900	"	170-25W	14-12N
5.			
6.			

DATE Sun Aug 9 1964

Time at sunrise = 0602 Position at sunrise = 15-03N 169-47W  
Time at sunset = 1849 Position at sunset = 14-32N 170-58W  
Miles traveled from 0000 hours to sunrise = 46  
Miles traveled from sunrise to sunset = 126  
Miles traveled from sunset to 2400 hours = 51

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1. 0530	Stars	169-43W	15-00N ✓
2. 1900	Stars	171-00W	14-32N ✓
3.			
4.			
5.			
6.			

DATE Mon Aug 10, 1964

Time at sunrise = 0613 Position at sunrise = 13-19N 172-32.5W  
Time at sunset = 1845 Position at sunset = 14-39N 172-17W  
Miles traveled from 0000 hours to sunrise = 64  
Miles traveled from sunrise to sunset = 118  
Miles traveled from sunset to 2400 hours = 50

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1. 0600	STARS	172-30W	13-21N
2. 1200	Stars	173-55W	13-55N
3. 1900	STARS	172-17W	14-39N
4.			
5.			
6.			

DATE TUESDAY Aug 11

Time at sunrise = 06<sup>08</sup> Position at sunrise = ~~170° 54' W~~ ~~15° 55' N~~  
Time at sunset = 18<sup>54</sup> Position at sunset = 171° 51' W 16-17N  
Miles traveled from 0000 hours to sunrise = 621 mi  
Miles traveled from sunrise to sunset = 110  
Miles traveled from sunset to 2400 hours = 215 mi

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.				
2.				
3. 1200			170-58W	16-26N
4. 1900	STAR		171-51W	16-17N
5.				
6.				

DATE WED Aug 12

Time at sunrise = 06<sup>16</sup> Position at sunrise = 173° 10' W 14° 59' N  
Time at sunset = 1901 Position at sunset = 173° 57' W 15° 26' N  
Miles traveled from 0000 hours to sunrise = 63 mi  
Miles traveled from sunrise to sunset = 127 mi  
Miles traveled from sunset to 2400 hours = 215 mi

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.				
2. 0600		STAR	173-13W	14-56N
3. 1200			173-51W	14-37N
4. 1930		STAR	173-54W	15-30N
5.				
6.				

DATE 13 Aug 1964

Time at sunrise = 0616 Position at sunrise = 16-36N 172-43W  
 Time at sunset = 1855 Position at sunset = 18-02N 172-05W  
 Miles traveled from 0000 hours to sunrise = 55  
 Miles traveled from sunrise to sunset = 409 109 - (76 mi in grid)  
 Miles traveled from sunset to 2400 hours = 46

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1. 0600	STAR Fix	172-45W	16-35N
2. 1000	Sun & Loran	172°23'W	16°52'N
3. 1200	Sun & Loran	172-12W	17-05N <sup>04</sup>
4. 1400	" "	172-01W	17-03N <sup>15</sup>
5. 1500	" "	171-48W	17-25N
6. 1930	STAR Fix	172-07	18-03N

DATE Friday Aug 14, 1964

Time at sunrise = 0610 Position at sunrise = 19-36N 172-40W  
 Time at sunset = 1905 Position at sunset = 21-09N 173-25W  
 Miles traveled from 0000 hours to sunrise = 57  
 Miles traveled from sunrise to sunset = 102  
 Miles traveled from sunset to 2400 hours = 48

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1. 0530	STAR	172-38N	19-31N
2. <del>0800</del> 1200	Sun & Loran	173-03W	20-26N
3. 1400	" "	173-13W	20-41N
4. 1930	STAR Fix	173-27W	21-13N
5. 2200	Loran	173-38W	21-35N
6.			

DATE SAT Aug 15, 1964

Time at sunrise = 0616 Position at sunrise = 22-48N 174-40<sup>10</sup>W  
 Time at sunset = 1903 Position at sunset = 24-30N 174-48<sup>53</sup>W  
 Miles traveled from 0000 hours to sunrise = 58  
 Miles traveled from sunrise to sunset = 112  
 Miles traveled from sunset to 2400 hours = 110

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1. 0530	STAR Fix	174-06	22-41N
2. 1200	Loran & Sun	174-36W	23-40N
3. 1930	STAR Fix	174-55N	24-34N
4. 0600	STAR Fix	174-27W	26-10N
5.			
6.			

DATE Sun Aug 16, 1964

Time at sunrise = 0615 Position at sunrise = 26-12N 175-38W  
 Time at sunset = 1920 Position at sunset = ANCHORED PEARL + HERMES  
 Miles traveled from 0000 hours to sunrise = 60 AT 1630  
 Miles traveled from sunrise to sunset = 98 27°46'N - 175°49'W  
 Miles traveled from sunset to 2400 hours = 0

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1. 0600	STAR	175-27W	26-10N
2. 1000	Sun/Star	175-56W	26-46N
3. 1200	Sun/Loran	175-41W	27-04N
4.			
5.			
6.			

DATE 20 Aug 1964

Time at sunrise 0615 Position at sunrise =  $27^{\circ}55'N$  Long  $175^{\circ}41'W$   
Time at sunset = 1916 Position at sunset =  $27-29N$   $175-19W$   
Miles traveled from 0000 hours to sunrise = 0  
Miles traveled from ~~sunset~~ to sunset = 41  
Miles traveled from sunset to 2400 hours = 56

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	<u>0615</u>	BEARINGS	<del>175-41W</del>	$27-55-N$
2.				
3.	<u>1930</u>	STARS	$175-17W$	$27-27N$
4.				
5.				
6.				

DATE 21 Aug 1964

Time at sunrise = 0612 Position at sunrise =  $26-10N$   $174-12W$   
Time at sunset = Position at ~~sunset~~ <sup>ANCHOR</sup> =  $26-03N$   $173-59W$   
Miles traveled from 0000 hours to sunrise = 55'  
Miles traveled from sunrise to ~~sunset~~ = 32  
Miles traveled from sunset to 2400 hours = 00

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.				
2.				
3.				
4.				
5.				
6.				

DATE 23 August 1964

Time at sunrise = 0617 Position at sunrise = 0°

Time at sunset = 1846 Position at sunset = 26-24 N 172-07 W

Miles traveled from 0000 hours to sunrise = 0

Miles traveled from sunrise to sunset = 109

Miles traveled from sunset to 2400 hours = 60

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0800	Visual fix/star	172-58 W	26-08 N
2.	1200	A GN	173-02 W	26-15 N
3.	1500	Sun/loren	172-41 W	26-20 N
4.	1930	STAR	171-51 W	26-22 N
5.				
6.				

DATE Aug 24, 1964

Time at sunrise = 0537 Position at sunrise = 25-57 N 170-18 W

Time at sunset = 1841 Position at sunset = 25-31 N 168-15 W

Miles traveled from 0000 hours to sunrise = 51

Miles traveled from sunrise to sunset = 110

Miles traveled from sunset to 2400 hours = 46

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0530	STAR	170-15 W	25-58 N
2.	0913	Sundown	169-39 W	25-49 N
3.	1200	Sun/loren	169-17 W	25-44 N
4.	1900	{ Star fix Loren	168-13 W	25-30 N
5.				
6.				

DATE TUES. Aug 25, 1964

Time at sunrise = 0543 Position at sunrise = 25-02 N 166-33 W  
Time at sunset = 1824 Position at sunset = 24-26 N 164-22 W  
Miles traveled from 0000 hours to sunrise = 51  
Miles traveled from sunrise to sunset = 101  
Miles traveled from sunset to 2400 hours = 57

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1. 0100	STAR	166-40 W	25-04 N
2. 1000	Sun/0020	165-50 W	24-44 N
3. 1200	LHN/Loran	165-29 W	24-41 N
4. 1900	STAR	164-16 W	24-25 N
5.			
6.			

DATE WED Aug 26, 1964

Time at sunrise = 0528 Position at sunrise = 24-56 N 162-24 W  
Time at sunset = 1809 Position at sunset = 22-36 N 160-38 W  
Miles traveled from 0000 hours to sunrise = 50.5  
Miles traveled from sunrise to sunset = 128  
Miles traveled from sunset to 2400 hours = 49

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1. 0500	STAR	162-29 W	23-57 N
2. 1100	horizon & L.S. &	161-35 W	23-26 N
3. 1200	Vis/strange	161-29 W	23-19 N
4. 1830	STAR fix	160-36 W	22-34 N
5.			
6.			

DATE: 3 AUGUST 1964Total Minutes: 791Total Miles: 101

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
92	124	1.33	1.02

## II. Abundance of the Shearwater-Petrel-Albatross Group:

SHEARWATER				PETREL				ALBATROSS				
No. Sightings	T	WT	P	B	T	WT	P	B	T	WT	P	B
77	52	1	12	91	64	1	12	1180	1230	1	1.0	9.0

## III. Abundance of Tropicbirds:

No. Sightings	T	RT	WT	No. Birds	T	RT	WT	Birds/Sighting	T	RT	WT	Birds/Mile
4	1	2	4	1	2	1	1	1	1.039	1.009	1.019	

## IV. Abundance of Terns:

No. Sightings	T	RT	WT	No. Birds	T	RT	WT	Birds/Sighting	T	RT	WT	Birds/Mile
2				9				1.125				1.089

## V. Abundance of Shorebirds:

No. Sightings	T	RT	WT	No. Birds	T	RT	WT	Birds/Sighting	T	RT	WT	Birds/Mile
0				7				1	0	0	0	

## VI. Abundance of Boobys:

No. Sightings	T	BF	RF	B	No. Birds	T	BF	RF	B	Birds/Sighting	T	BF	RF	B	Birds/Mile
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

## VII. Abundance of Frigatebirds:

No. Sightings	T	RT	WT	No. Birds	T	RT	WT	Birds/Sighting	T	RT	WT	Birds/Mile
1				1				1				1.009

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
0	0	0	0	0	0

0 I  
1 - 2 - 2

4

DATE: 4 Aug. 64Total Minutes: 813Total Miles: 103

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>100</u>	<u>989</u>	<u>9.890</u>	<u>9.601</u>

## II. Abundance of the Shearwater-Petrel-Albatross Group:

SHEAR PET.							1.174							0.116									
No. Sightings			No. Birds				Birds/Sighting			Birds/Mile				T			WT				P		
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	
71	53	9	2	24	617	10	2	3028	11.671	1.111	1	6.223	5.990	1	0.097	0	0.097	0	0	0	0	0	0

## III. Abundance of Tropicbirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT
2	2	0	2	2	0	1	1	0

## IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
21	502	14.84	3.0**

## V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

## VI. Abundance of Boobys:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile								
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
1	14	0	1	14	0	1	1	0	0	0	0

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
5	36	2200	0.249

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
5	612 ± 160	0.117	0	0	0

DATE: 5 AUG 64Total Minutes: 781Total Miles: 131

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>58</u>	<u>102</u>	<u>1.758</u>	<u>.779</u>

## II. Abundance of the Shearwater-Petrel-Albatross Group:

SHEARWATER GROUP															
No. Sightings		No. Birds		Birds/Sighting			Birds/Mile								
T	WT	P	B	T	WT	P	B	T	WT	P	B				
<u>44</u>	<u>22</u>	<u>17</u>	<u>2</u>	<u>73</u>	<u>57</u>	<u>29</u>	<u>2</u>	<u>1.631</u>	<u>1.77</u>	<u>170</u>	<u>1</u>	<u>.56</u>	<u>.29</u>	<u>.22</u>	<u>.015</u>

## III. Abundance of Tropicbirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile								
T	RT	WT	T	RT	WT	T	RT	WT			
<u>7</u>	<u>2</u>	<u>5</u>	<u>7</u>	<u>2</u>	<u>5</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>.053</u>	<u>.1015</u>	<u>.038</u>

## IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>7</u>	<u>21</u>	<u>7</u>	<u>.15</u>

## V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

## VI. Abundance of Boobys:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile								
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
<u>2</u>	<u>47</u>	<u>.015</u>	<u>1</u>	<u>6</u>	<u>.008</u>

## TOTALS PRE AND POST JOHNSTON Is. - OUT AN IN GRID

A+B

DATE: 6 AUGUST 64

Total Minutes: 763

Total Miles: 118

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
99	391	3.94	3.31

## II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	WT	P	B	T	WT	P	B	T	WT	P	B
42	23	13	1	55	35	13	1	1.30	1.52	1	1

Shearwater Petrel Albatross

## III. Abundance of Tropicbirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT
1	1	0	1	1	0	1	1	0

## IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
50	325	6.50	2.69

## V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

## VI. Abundance of Boobys:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile					
T	BF <sup>sp.</sup> RF	B	T	BF <sup>sp.</sup> RF	B	T	BF <sup>sp.</sup> RF	B
3	1	2	0	3	1	2	0	1

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
3	7	2.333	.059

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
3	198	.025	0	0	0

## PRE-JOHNSTON Is. - OUT OF GRID

DATE: 6 AUGUST 64Total Minutes: 248Total Miles: 12

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
77	551	4.57	8.35

## II. Abundance of the Shearwater-Petrel-Albatross Group:

SHEARWATER-PETREL				ALBATROSS				TOTAL							
No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
25	17	6	1	35	26	7	1	140	152	116	1	1833	619	166	1023

## III. Abundance of Tropicbirds:

No. Sightings	No. Birds		Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT
1	1	0	1	1	0	1	1	0

## IV. Abundance of Terns:

No. Sightings	No. Birds		Birds/Sighting			Birds/Mile		
46	306		6.15			7.28		

## V. Abundance of Shorebirds:

No. Sightings	No. Birds		Birds/Sighting			Birds/Mile		
0	0		0			0		

## VI. Abundance of Boobys: - 1 Early sp.

No. Sightings	No. Birds		Birds/Sighting			Birds/Mile					
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
2	0	1	0	2	0	1	0	1	0	1	0

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds		Birds/Sighting			Birds/Mile		
3	7		2.33			1.66		

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
3	197	1071	0	0	0

B

## Post-Johnston Is. - IN GRID (no)

DATE: 6 AUGUST 64

Total Minutes: 515

Total Miles: 76

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
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22	40	1.81	523
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## II. Abundance of the Shearwater-Petrel-Albatross Group:

SHEAR-PET

2

2

1

.026

No. Sightings		No. Birds		Birds/Sighting			Birds/Mile				
T	WT	P	B	T	WT	P	B	T	WT	P	B

17	6	9	0	20	9	9	0	1.17	1.50	1	0	.263	.118	.118	0
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## III. Abundance of Tropicbirds:

No. Sightings	No. Birds		Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT

0	0	0	0	0	0	0	0	0
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## IV. Abundance of Terns:

No. Sightings	No. Birds		Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT

4			19			4.75			1249		
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## V. Abundance of Shorebirds:

No. Sightings	No. Birds		Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT

0			0			0			0		
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## VI. Abundance of Boobys:

No. Sightings	No. Birds		Birds/Sighting			Birds/Mile					
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

1	0	1	0	1	0	1	0	1	0	1	0
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## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds		Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT

0			0			0			0		
---	--	--	---	--	--	---	--	--	---	--	--

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
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0	0	0	0	0	0
---	---	---	---	---	---

B

IN GRID - BEGINDATE: 7 AUGUST 64Total Minutes: 765Total Miles: 120

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
40	43	1.07	1353

## II. Abundance of the Shearwater-Petrel-Albatross Group:

Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B

31	2	23	0	34	2	24	0	1.09	1	1.04	0	120	0.016	.20	0
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## III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
6	3	2	6	3	2	1	1	1	1050	.025	.016

## IV. Abundance of Terns:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
3	3	3				1			1025		

## V. Abundance of Shorebirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
0	0	0	0	0	0	0	0	0	0	0	0

## VI. Abundance of Boobys:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0	0	0	0

## VII. Abundance of Frigatebirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
0	0	0	0	0	0	0	0	0	0	0	0

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
0	0	0	0	0	0

1339

777

4

310711

111

111

666

666

111

111

111

111



B

DATE: 9 AUGUST 64

Total Minutes: 767

Total Miles: 126

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
17	27	1.29	.174

II. Abundance of the Shearwater-Petrel-Albatross Group:

Shear-Pet.

No. Sightings		No. Birds		Birds/Sighting			Birds/Mile				
T	WT	P	B	T	WT	P	B	T	WT	P	B
11	3	4	0	11	3	4	0	1	1	1	0

.087 .025 .031 0

III. Abundance of Tropicbirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT
2	2	0	2	2	0	1	1	0

.015 .015 0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
4	9	2.25	.071

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile								
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
0	0	0	0	0	0

B

DATE: 10 August 64.

Total Minutes: 762

Total Miles: 118

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
41	81	1.98	.686

## II. Abundance of the Shearwater-Petrel-Albatross Group:

Shearw-Pet				3				3				1				1,025			
No. Sightings				No. Birds				Birds/Sighting				Birds/Mile							
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
35	13	19	0	51	25	20	0	1.55	1.92	1.05	0	1.432	2.21	1.69	0				

## III. Abundance of Tropicbirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile															
T	RT	WT	T	RT	WT	T	RT	WT										
3	2	1	3	2	1	-	1	1	1	1	1	1,025	.016	.008				

## IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	26	13	.220

## V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

## VI. Abundance of Boobys:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile								
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0	0	0	0

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
1	37	1008	0	0	0

B

DATE: 11 AUGUST 64

Total Minutes: 766  
8:30

Total Miles: 110

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
44	253	5.75	2.30

II. Abundance of the Shearwater-Petrel-Albatross Group:

Shear-Pet = + 13 3.25 .118

No. Sightings				No. Birds				Birds/Sighting			Birds/Mile				
T	WT	P	B	T	WT	P	B	T	WT	P	B				
32	13	15	0	85	50	22	0	2.45	3.64	1.16	0	.772	.454	.20	0

III. Abundance of Tropicbirds: 1 - Tropicbird sp.

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
3	1	1	3	1	1	1	1	1	.02	.009	.009

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
9	165	18.33	1.50

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	2	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
3	216	1.02	0	0	0

B

DATE: 12 AUGUST 64

Total Minutes: 795

Total Miles: 127

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>49</u>	<u>65</u>	<u>1.35</u>	<u>.51</u>

2 "BIRDS" recorded

II. Abundance of the Shearwater-Petrel-Albatross Group:

Shear-Pet.				14				1.40				.110				
No. Sightings	T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
<u>15</u>	<u>4</u>	<u>31</u>	<u>0</u>	<u>60</u>	<u>4</u>	<u>42</u>	<u>0</u>	<u>1.33</u>	<u>1</u>	<u>1.35</u>	<u>0</u>	<u>.47</u>	<u>.031</u>	<u>.33</u>	<u>0</u>	<u>0</u>

III. Abundance of Tropicbirds:

No. Sightings	No. Birds			Birds/Sighting			Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT	
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	

IV. Abundance of Terns:

No. Sightings	No. Birds			Birds/Sighting			Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT	
<u>1</u>	<u>3</u>	<u>0</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	

V. Abundance of Shorebirds:

No. Sightings	No. Birds			Birds/Sighting			Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT	
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	

VI. Abundance of Boobys:

No. Sightings	No. Birds			Birds/Sighting			Birds/Mile					
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds			Birds/Sighting			Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT	
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
<u>1</u>	<u>13</u>	<u>1007</u>	<u>0</u>	<u>0</u>	<u>0</u>

B

IN GRIDDATE: 13 AUGUST 64Total Minutes: 547Total Miles: 76

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
27	27	1	.335

, bird sp.

## II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	WT	P	B	T	WT	P	B	T	WT	P	B
23	3	16	2	23	3	16	2	1	1	1	.302

, 0.39 , 210 .026

## III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
1	1	0	1	1	0	1	1	0	0.13	0.13	0

## IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1	0.13

## V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

## VI. Abundance of Boobys:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0	0	0	0

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1	0.13

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
0	0	0	0	0	0

C OUT OF GRID - ENDDATE: 13 AUGUST 64Total Minutes: 212Total Miles: 33

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>7</u>	<u>7</u>	<u>1</u>	<u>1313</u>

## II. Abundance of the Shearwater-Petrel-Albatross Group:

Shearwater				Petrel				Albatross					
No. Sightings	No. Birds	Birds/Sighting	Birds/Mile	No. Sightings	No. Birds	Birds/Sighting	Birds/Mile	No. Sightings	No. Birds	Birds/Sighting	Birds/Mile		
T	WT	P	B	T	WT	P	B	T	WT	P	B		
<u>6</u>	<u>0</u>	<u>6</u>	<u>0</u>	<u>6</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>181</u>	<u>0</u>	<u>181</u>	<u>0</u>

## III. Abundance of Tropicbirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT
<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>30</u>	<u>0</u>

## IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

## V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

## VI. Abundance of Boobys:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile								
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

B+C TOTAL FOR DAY - IN AND OUT OF GRIDDATE: 13 AUGUST 64Total Minutes: 759Total Miles: 109

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>34</u>	<u>34</u>	<u>1</u>	<u>1.311</u>

## II. Abundance of the Shearwater-Petrel-Albatross Group:

<i>Shear-Rt</i>			2			2			1			1018		
No. Sightings	No. Birds		T	WT	P	B	T	WT	P	B	T	WT	P	B
<u>29</u>	<u>3</u>	<u>22</u>	<u>2</u>	<u>29</u>	<u>3</u>	<u>22</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>.266</u>	<u>.027</u>	<u>.201</u>

## III. Abundance of Tropicbirds:

No. Sightings	No. Birds		Birds/Sighting	Birds/Mile							
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
<u>2</u>	<u>2</u>	<u>0</u>	<u>2</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>.013</u>	<u>.018</u>	<u>0</u>

## IV. Abundance of Terns:

No. Sightings	No. Birds		Birds/Sighting	Birds/Mile
<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1.009</u>

## V. Abundance of Shorebirds:

No. Sightings	No. Birds		Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

## VI. Abundance of Boobys:

No. Sightings	No. Birds		Birds/Sighting	Birds/Mile							
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds		Birds/Sighting	Birds/Mile
<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1.009</u>

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

DATE: 14 AUGUST 64Total Minutes: 785Total Miles: 102

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>73</u>	<u>304</u>	<u>4.16</u>	<u>2.98</u>

## II. Abundance of the Shearwater-Petrel-Albatross Group:

SHEARWATER-PETREL				ALBATROSS											
No. Sightings		No. Birds		Birds/Sighting		Birds/Mile		No. Sightings		No. Birds		Birds/Sighting	Birds/Mile		
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT		
<u>53</u>	<u>29</u>	<u>17</u>	<u>5</u>	<u>184</u>	<u>157</u>	<u>18</u>	<u>5</u>	<u>3.47</u>	<u>5.60</u>	<u>105</u>	<u>1</u>	<u>1.80</u>	<u>1.52</u>	<u>1.76</u>	<u>1.049</u>

## III. Abundance of Tropicbirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile								
T	RT	WT	T	RT	WT	T	RT	WT			
<u>2</u>	<u>2</u>	<u>0</u>	<u>2</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1.019</u>	<u>1.019</u>	<u>0</u>

## IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>16</u>	<u>116</u>	<u>7.24</u>	<u>1.13</u>

## V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

## VI. Abundance of Boobys:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile										
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B		
<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>1.009</u>	<u>0</u>	<u>0.1009</u>

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
<u>5</u>	<u>230</u>	<u>.049</u>	<u>1</u>	<u>145</u>	<u>.1029</u>

DATE: 15 AUGUST 64Total Minutes: 795Total Miles: 112

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>143</u>	<u>535</u>	<u>3.74</u>	<u>4.77</u>

## II. Abundance of the Shearwater-Petrel-Albatross Group:

~~Shear-Pet~~

No. Sightings				No. Birds				Birds/Sighting			Birds/Mile				
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
<u>92</u>	<u>61</u>	<u>20</u>	<u>7</u>	<u>229</u>	<u>197</u>	<u>21</u>	<u>7</u>	<u>2.48</u>	<u>3.22</u>	<u>1.05</u>	<u>1</u>	<u>2.04</u>	<u>1.75</u>	<u>.187</u>	<u>.062</u>

## III. Abundance of Tropicbirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT
<u>4</u>	<u>4</u>	<u>0</u>	<u>4</u>	<u>4</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>

## IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>45</u>	<u>298</u>	<u>6.63</u>	<u>2.46</u>

## V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

## VI. Abundance of Boobys:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile								
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>1</u>	<u>1</u>	<u>1</u>	<u>.009</u>

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
<u>3</u>	<u>333</u>	<u>.026</u>	<u>3</u>	<u>333</u>	<u>.026</u>

DATE: 16 AUGUST 64Total Minutes: 615Total Miles: 98

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>187</u>	<u>679</u>	<u>3.61</u>	<u>6.92</u>

## II. Abundance of the Shearwater-Petrel-Albatross Group:

Shear-Pet

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B

111 75 53 0 273 236 36 0 2.45 314 109 0 278 2.40 .367 0

## III. Abundance of Tropicbirds: - 1 Tropicbird sp.

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT

12 11 0 14 13 0 1.16 1.18 0 142 1.32 0

## IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>58</u>	<u>375</u>	<u>6.46</u>	<u>3.82</u>

## V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>4</u>	<u>4</u>	<u>1</u>	<u>.040</u>

## VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>4</u>	<u>13</u>	<u>3.25</u>	<u>1.32</u>

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
<u>7</u>	<u>380</u>	<u>.071</u>	<u>3</u>	<u>115</u>	<u>.032</u>

D (between Pearl + Hermes and Lisianski Is.)

DATE: 20 AUGUST 64

Total Minutes: 195

Total Miles: 41

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
20	107	5.35	9.92

II. Abundance of the Shearwater-Petrel-Albatross Group:

Shearwater				Petrel				Albatross			
No. Sightings	No. Birds	Birds/Sighting	Birds/Mile	No. Sightings	No. Birds	Birds/Sighting	Birds/Mile	No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
T	WT	P	B	T	WT	P	B	T	WT	P	B
29	22	7	0	153	144	9	0	5.27	6.54	1.28	0

2.9	2.2	0.7	0	15.3	14.4	9	0	5.27	6.54	1.28	0
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III. Abundance of Tropicbirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT
4	4	0	4	4	0	1	1	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
28	227	8.10	5.53

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
4	4	1	10.87

VI. Abundance of Boobys:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile								
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
1	1	0	0	13	1	0	0	4.5	1	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
3	321	10.74	1	240	0.23

D

DATE: 23 AUGUST 64

Total Minutes: 764

Total Miles: 109

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
206	2142	10.39	19.65

## II. Abundance of the Shearwater-Petrel-Albatross Group:

Shear-Pet

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	WT	P	B	T	WT	P	B	T	WT	P	B
51	76	5	1	326	5	5	1	6.38	227	1	12.99

## III. Abundance of Tropicbirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT
5	5	0	6	6	0	1	1	0

## IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
56	211	3.76	1.93

## V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
3	6	2	10.55

## VI. Abundance of Boobys:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
10	6	3	1	14	9	4	1	1.40	1.50	1.33	1

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
5	5	1	10.45

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
2	39	10.18	0	0	0

D

DATE: 24 AUGUST 64Total Minutes: 794Total Miles: 110

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>133</u>	<u>452</u>	<u>3.39</u>	<u>4.10</u>

## II. Abundance of the Shearwater-Petrel-Albatross Group:

Shear-Pet-Al											
No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	WT	P	B	T	WT	P	B	T	WT	P	B
<u>107</u>	<u>70</u>	<u>11</u>	<u>26</u>	<u>33</u>	<u>286</u>	<u>13</u>	<u>32</u>	<u>3.09</u>	<u>4.08</u>	<u>1.18</u>	<u>1.23</u>

## III. Abundance of Tropicbirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT
<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1009</u>	<u>.009</u>	<u>0</u>

## IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>17</u>	<u>108</u>	<u>6.35</u>	<u>.981</u>

## V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>2</u>	<u>2</u>	<u>1</u>	<u>.018</u>

VI. Abundance of Boobys: 1 Booby

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile								
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
<u>2</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>3</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>0</u>

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>4</u>	<u>8</u>	<u>2</u>	<u>.072</u>

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
<u>3</u>	<u>193</u>	<u>1087</u>	<u>0</u>	<u>0</u>	<u>0</u>

DATE: 25 AUGUST 64

Total Minutes: 799

Total Miles: 101

### 1. Total Abundance of birds:

<u>No. Sightings</u>	<u>No. Birds</u>	<u>Birds/Sighting</u>	<u>Birds/Mile</u>
98	108	1.10	1.06

## II. Abundance of the Shearwater-Petrel-Albatross Group

Scher - Reti

Det.	No.	Sightings				No. Birds				Birds/Sighting				Birds/Mile			
		T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
6	6	1	14	88	66	1	15	1.08	1.10	1	1.07	.821	.653	.009	.148		

### III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
4	4	0	1	t	0	1	1	0	1039	1039	0

#### IV. Abundance of Terns:

<u>No. Sightings</u>	<u>No. Birds</u>	<u>Birds/Sighting</u>	<u>Birds/Mile</u>
12	25	2.08	.247

### V. Abundance of Shorebirds:

<u>No. Sightings</u>	<u>No. Birds</u>	<u>Birds/Sighting</u>	<u>Birds/Mile</u>
0	0	0	0

## VI. Abundance of Boobys:

No. Sightings				No. Birds			Birds/Sighting			Birds/Mile					
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	E

VTT Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
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## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
0	0	0	0	0	0

D

DATE: 24 August 64

Total Minutes: 799

Total Miles: 12.8

I. Total Abundance of birds: 1 Bird sp.

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
289	1682	5.81	13.14

II. Abundance of the Shearwater-Petrel-Albatross Group:

SHEAR-PET. 17 20 1,17

No. Sightings				No. Birds				Birds/Sighting			Birds/Mile				
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
193	92	5	79	22	22	6	102	2	2	120	129	2	9.58	1046	1796

III. Abundance of Tropicbirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile								
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
6	6	0	6	6	0	1	1	0	1046	1046	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
59	225	3.81	1.75

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting			Birds/Mile				
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
25	1	20	1	82	3	71	2	3.21	3.0	3.55	2	1.60	1.023	.554	.015

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
5	15	3.00	.053

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
6	1310	1046	0	0	0

D.

DATE: 27 AUGUST 64Total Minutes: 379Total Miles: 53

## I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>119</u>	<u>198</u>	<u>1.672</u>	<u>3.73</u>

## II. Abundance of the Shearwater-Petrel-Albatross Group:

SHEARWATER		PETREL		ALBATROSS		BIRDS		MILE						
No. Sightings	No. Birds	No. Sightings	No. Birds	No. Sightings	No. Birds	T	WT	P	B	T	WT	P	B	
<u>107</u>	<u>48</u>	<u>4</u>	<u>8</u>	<u>72</u>	<u>4</u>	<u>9</u>	<u>1.68</u>	<u>1.50</u>	<u>1</u>	<u>1125</u>	<u>3.37</u>	<u>1.35</u>	<u>.025</u>	<u>.163</u>

## III. Abundance of Tropicbirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT
<u>1</u>	<u>0</u>	<u>1</u>	<u>4</u>	<u>0</u>	<u>4</u>	<u>1</u>	<u>0</u>	<u>1</u>

## IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>6</u>	<u>13</u>	<u>2.16</u>	<u>2.45</u>

## V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

VI. Abundance of Boobys: 1-Booby sp.

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile								
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
<u>2</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>

## VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

## VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

2' 8" 8' 8" 1' 30" 70" Term  
8' 2" " 6' 9" 5' 6"  
" 4' 10" 2"

At Sea Survey - August 1964 - Draft - Progress Report

INTRODUCTION

This report is based on results and observations made in the thirteenth of a monthly series of investigations of the flora and fauna in a particular study area of the Central Pacific Ocean. Observations cover a period of 23 days -- 3 August to 27 August 1964.

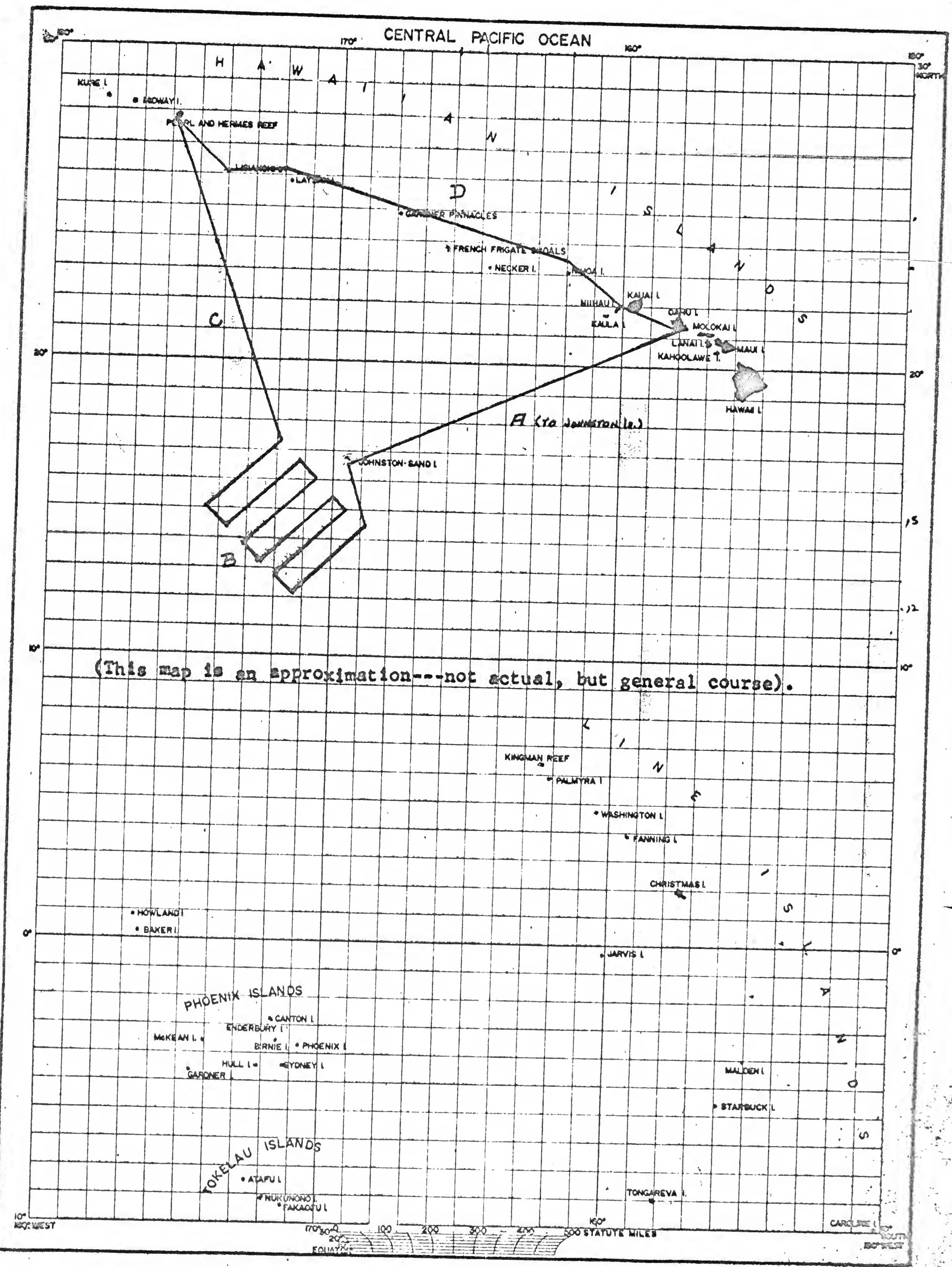
The areas investigated were the same as last month, with the exclusion of extending the first two legs of the grid to ten degrees North, and the inclusion of and extention to Pearl and Hermes Reef -- returning to Oahu along the Northern sides of the Leeward Islands.

The islands of Pearl and Hermes Reef and Lisianski were visited and occupied five of the twenty-three days -- August 17-19 and 21-22. This report covers the times the ship was in motion only.

Diurnal and nocturnal observations were made in the grid and diurnal observations in all other areas.

Six members of the Smithsonian Institution Pacific Project participated in the survey - Ken Amerman (Biologist in Charge), J. Douglas Whitman, Paul W. Woodward, Peter Marshall, Richard W. Merrill and Alan Anderson. William Forester and Alan Young, engaged in oceanographic studies, were representing Dr. M. Doty of the University of Hawaii.

The areas of study investigated will be reported by letter designations thusly:



Area A ---- Oahu to Johnston Island

Area B ---- Johnston Island to and including the Grid

Area C ---- Grid to Pearl and Hermes Reef

Area D ---- Pearl and Hermes Reef to Lisianski

and to Oahu along the northern sides  
of the Leeward Islands

(See following Map)

## SPECIES ACCOUNTS

### Laysan Albatross (Diomedea immutabilis)

One bird of this species was seen between Pearl and Hermes Reef and Lisianski Island.

No specimens collected.

### Wedge-tailed Shearwater (Puffinus pacificus)

A-746      B-100      C-590      D- 2119

A greater concentration of this species was seen in all areas and especially near the Leewards. A total of fourteen dark phase individuals were seen, six of which were within the grid.

A total of 100 birds seen within the grid represents a forty percent increase over those present there last month.

One red-tagged bird was observed approximately five miles from Johnston Island on 6 August at 1050 hours.

17 specimens were collected.

### Newell's Shearwater (Puffinus puffinus)

A-12      B- 1      C-0      D-53

Fewer individuals were seen in all areas except along the Lee-ward Chain. This confirms last months indication of a more widespread distribution.

No specimens collected.

Christmas Island Shearwater (Puffinus nativitatus)

A-0      B-17      C-2      D-8

This species is nearly consistent with last months findings in all areas except the grid in which there was a marked increase.

No specimens collected.

Sooty Shearwater (Puffinus griseus)

Three individuals of this species were seen in Area D.

No specimens collected.

Pink-footed Shearwater (Puffinus creatopus)

One questionable bird presumed this species was seen in the grid. Unfamiliarity of it to the observers necessitates doubts, however its presence in this area is not impossible.

No specimens collected.

White-necked Petrel (Pterodroma externa)

A-4      B-41      C-0      D-0

This species remains nearly consistent with last months findings within the grid. Four were seen in Area A as opposed to one last month, however this number is too small to indicate a trend.

One specimen collected.

Bonin Island Petrel (Pterodroma hypoleuca)

A-22      B-39      C-64      D-1590

This species indicates a movement toward the main Islands and is substantiated by the increase of 1582 individuals seen along the Leeward Chain. Eight were seen in the smaller Area D last month.

No specimens collected.

Dark-rumped Petrel (Pterodroma phaeopygia)

A-2      B-17      C-0      D-0

The increase, as indicated last month, continues.

No specimens collected.

Kermadec Petrel (Pterodroma neglecta)

Five individuals were seen in the grid which indicates a greater dispersion at sea. One bird of this species was seen last month.

No specimens collected.

Bulwer's Petrel (Bulweria bulwerii)

A-17      B-2      C-12      D-163

The continued downward trend is evident. The same number was seen in the grid and an increase in area D due to the additional coverage.

One specimen collected.

Harcourt's Storm Petrel (Oceanodroma castro)

A-0      B-1      C-1      D-7

This species was observed in all areas except Oahu to Johnston Island. The greater numbers were seen close to the main islands. None were seen last month.

No specimens collected.

White-throated Storm Petrel (Nesofreggetta albicularis)

One individual was clearly seen and identified as this species. This is a new record for the grid and the At-sea study.

No specimens collected.

Skua (Catharacta skua)

One Skua was positively identified on 10 August within the grid and another questionably identified due to distance. This species has been recorded in the At-sea study previously but infrequently.

No specimens collected.

Red-tailed Tropicbird (Phaethon rubricauda)

A-6    B-10    C-22    D-21

This species has increased in areas C and D, and decreased in areas A and B.

One specimen collected.

White-tailed Tropicbird (Phaethon lepturus)

A-7    B-4    C-2    D-4

This species represents a decrease in area A, increase in the grid and occurrence consistent with last month in areas C and D.

No specimens collected.

Blue-faced Booby (Sula dactylatra)

A-1    B-1    C-0    D-15

Occurrence of this species remains consistent with last months' findings in all areas except D. The additional area covered and proximity to land accounts for the increase in area D.

No specimens collected.

Red-footed Booby (Sula sula)

A-1 B-1 C-0 D-76

For this species the trend to remain close to land continues.

One specimen collected.

Great Frigatebird (Fregata minor)

A-34 B-1 C-14 D-28

This species has increased in all areas except D.

One specimen collected.

Golden Plover (Pluvialis dominica)

Four birds of this species were seen in area D near the Leeward Chain.

No specimens collected.

Ruddy Turnstone (Arenaria interpres)

A-0 B-0 C-4 D-5

Presence of this species in areas C and D indicates movement from the breeding grounds and is expected this time of year.

No specimens collected.

Sooty Tern (Sterna fuscata)

A-582 B-231 C-762 D-513

The increase in areas A and C, and decrease in B and D indicates a greater dispersion of this species. Immature birds were recorded in all areas.

Gray-backed Tern (Sterna lunata)

A-2    B-0    C-1    D-0

The continuing decrease is evident in all areas except A in which findings are consistent with July.

No specimens collected.

Common Noddy (Anous stolidus)

A-9    B-0    C-5    D-156

Findings for this species are consistent with last months. A substantial increase in area D is due to the proximity to the breeding grounds.

No specimens collected.

Blue-gray Noddy (Procelsterna cerulea)

Four birds of this species were seen in area D near Nihoa Island. They have been recorded in small numbers in this area on previous cruises.

No specimens collected.

Fairy Tern (Gygis alba)

A-7    B-10    C-2    D-60

A marked increase is represented this month in all areas. The number within the grid has doubled since last month.

No specimens collected.

Note: Area D includes a distance of approximately 640 miles which were not covered last month. The increase of all birds except Sooty Terns (Sterna fuscata) in this area is due to the proximity of the ship to these islands in the Leeward Chain.

TABLE I  
Distance and Time Covered by Observations Outside the Grid

<u>Date</u>	<u>No. Hours</u>	<u>No. Miles</u>
03	13.1	101
04	13.5	103
05	13.0	131
06	4.1	42
13	9.1	33
14	13.1	102
15	13.2	112
16	10.2	98
17	0.0	0.0
18	0.0	0
19	0.0	0
20	3.2	41
21	0.0	0
22	0.0	0
23	12.7	109
24	13.2	110
25	13.3	101
26	13.3	128
27	6.3	53
Total	151.3	1264

TABLE II  
Distance and Time Covered by Observations Inside the Grid

<u>Date</u>	<u>No. Hours</u>	<u>No. Miles</u>
06	8.6	76
07	12.7	120
08	12.6	100
09	12.8	126
10	12.7	118
11	12.8	110
12	13.2	127
13	9.1	76
Total	94.5	853

Check Mr. Spear's chart for 13 <sup>on side</sup>  
g ~ f

TABLE III  
Location of Red-tagged Sooty Terns

<u>Date</u>	<u>Time</u>	<u>Age</u>	<u>Behavior</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Miles from Johnston Island</u>
05	0700	Ad.	Not feed.	18° 30'	165° 03'	233
06	0702	Ad.	Not feed.	16 54	169 00	12
06	0928	Ad.	Not feed.	16 42	168 9 22	11
06	0933	Ad.	Not feed.	16 43	168 9 27 1	11
08	1640	Imm.	Not feed.	14 01	170 46	184
10	1650	Imm.	Not feed.	14 25	172 31	230
12	1050	Imm.	Not feed.	16 24 0	172 0 51	287 80
12	1250	Imm.	Not feed.	14 42	173 57	293

TABLE IV  
Diurnal Abundance of Birds Outside of the Grid

<u>Date</u>	<u>No. of Birds</u>	<u>No. Feeding Flocks</u>	<u>No. Species Ident.</u>
03	104	0	07
04	989	0	10
05	102	1	12
06	351	0	08
13	7	0	08
14	304	1	06
15	535	3	07
16	679	3	10
17	000	0	00
18	000	0	00
19	000	0	00
20	407	1	10
21	000	0	00
22	000	0	00
23	2142	0	13
24	452	0	10
25	108	0	08
26	1682	0	16
27	198	0	08
Total	8060	9	23
	40	0	05

Aug 6

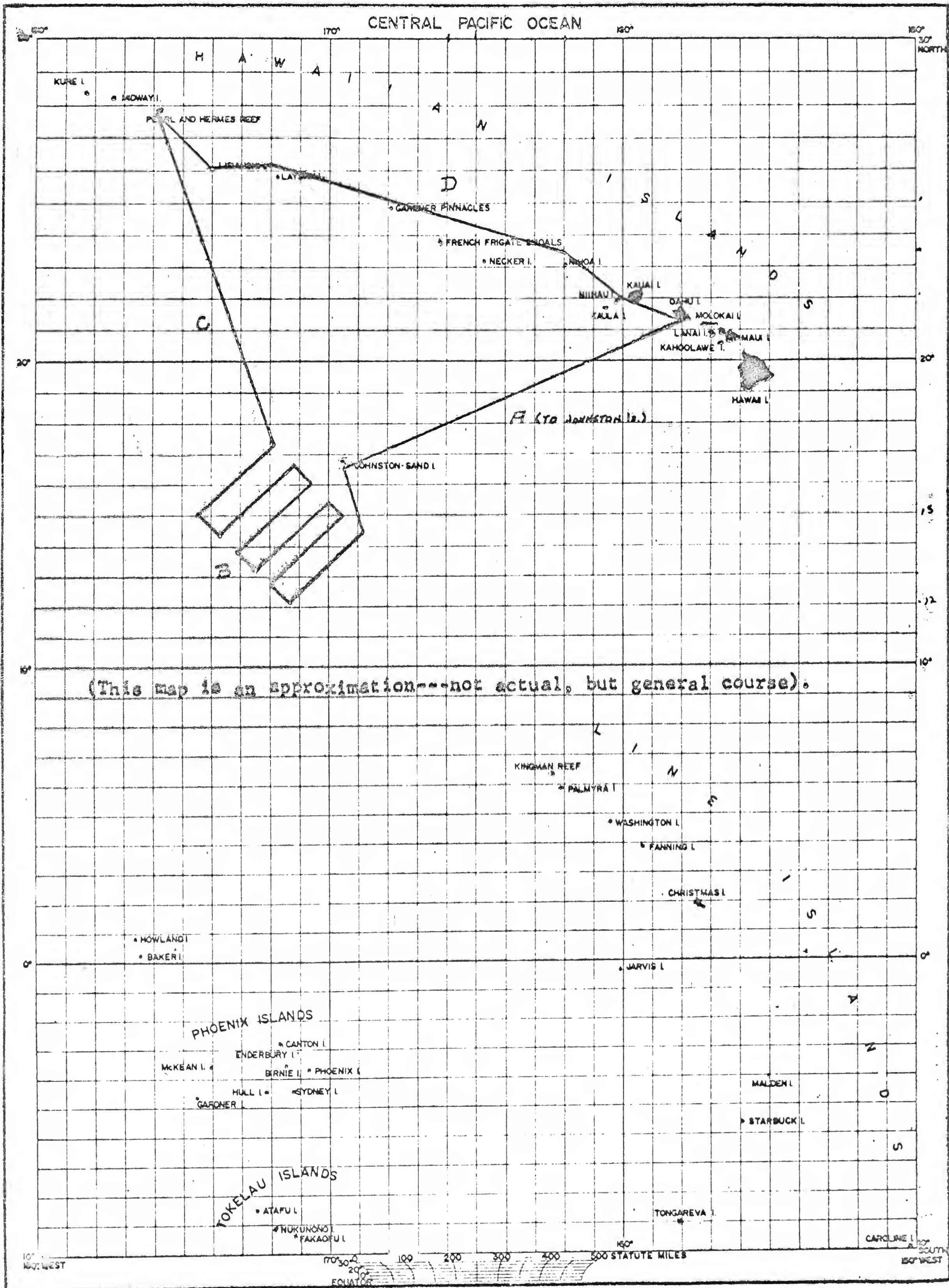
TABLE V  
Diurnal Abundance of Birds Inside the Grid

<u>Date</u>	<u>No. of Birds</u>	<u>No. Feeding Flocks</u>	<u>No. Species Ident.</u>
06	40	0	03
07	43	0	11
08	59	0	06
09	22	0	06
10	81	0	09
11	253	0	11
12	65	0	06
13	27	0	08
Total	590	0	18
	550		16

TABLE VI

## Diurnal Abundance of Species Groups Inside of the Grid

<u>Group</u>	<u>Total Birds</u>	<u>Birds/Sq. Mile</u>	<u>Estimated Population</u>
Shearwaters	327 307	0.191 0.20	9,550 9880
Boobies	40	0.0005 0.00	25 0
Tropicbirds	16	0.0093	465 515
Frigatebirds	1	0.0002	10 10
Terns	241 222	0.094 0.10	4,700 4760
Storm Petrels	2	0.0023	115
Shorebirds	0	0.00	0



DATE

3 Aug 1969 Monday

TIME	LAT	LONG	PRES WEA	VIS	SIP	DRY B	DEW PT	HUMO/0	TR SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															
0700															
0800															
0900			DOCKED												
1000	21° 17' N	157° 54' W	Partly C1	20	1013	84	76	76	1	5	100/5	80	15	160	247 10.0
1100	21° 11' N	158° 00' W	"	"	1014	84	76	76	1	5	100/5	80	15	100	247 10
1200	21° 05' N	158° 20' W	"	"	1014	84	76	76	1	5	100/5	80	15	100	247 10
1300	21 - 02 N	158-30 W	"	"	1018	85	78	62	1	5	100/5	80	15	11	247 10
1400	20 - 59 N	158-40 W	"	"	1019	88	80	71	1	4	100/4	50	15	11	247 10
1500	20 - 56 N	158-50 W	"	"	1009	82	80	71	1	4	100/4	50	15	11	247 10
1600	20 - 54 N	159-00 W	"	"	1018	82	80	71	1	4	100/4	50	15	11	247 10
1700	20 - 50 N	159-11 W	"	"	1017	81	79	92	1	3	100/4	50	15	11	245 10
1800	20 - 45 N	159-22 W	"	"	1017	81	79	92	1	3	100/4	50	15	11	245 10
1900	20 - 42 N	159-32 W	"	"	1018	80	78	91	2	3	100/4	50	10	11	245 10
2000	20 - 36 N	159-44 W	"	"	1018	80	78	91	2	3	100/4	50	10	11	10
2100	20 - 33 N	159-56 W	"	"	1018	80	78	91	2	2	100/4	50	10	11	10
2200	20 - 28 N	160-07 W	"	"	1019	80	78	91	2	2	100/4	81	8	11	11 10
2300	20 - 25 N	160-17 W	"	"	1019	80	78	91	2	2	100/4	81	8	11	11 10
2400	20 - 22 N	160-27 W	"		1019	80	78	91	2	2	100/4	81	8	11	11 10

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
 WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE 13 Aug 1964

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUMO/O	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	16-04N	173-16W	Partly	Cly	20	1018	82	80	91	6	3	090/5	81	20	070	048 10.0
0200	16-12N	173-08W	" "	"	1019		82	80	91	6	3	" "	81	20	090	048 10.0
0300	16-17N	173-02W	" "	"	1018		82	80	91	6	3	"	81	20	090	048 10.0
0400	16-25N	172-54W	" "	"	"		82	77	84	2	0	090/6-	82	20	090	048 10.0
0500	16-28N	172-51W	" "	"	1014		82	77	84	2	0	090/5-	82	19	100	048 9.6
0600	16-35N	172-45W	" "	"	1015		82	77	84	2	0	090/5-	82	18	090	048 8.7
0700	16-36N	172-43W	" "	"	1016		82	77	84	3	0	080/100/4	82	17	080	140E TO
0800	16-41N	172-37W	" "	"	1016		83	77	84	3	0	100/4	82	19	100	048 8.7
0900	16-47N	172-31W	" "	"	1016		83	75	80	3	0	090/8	82	20	100	048 8.7
1000	16-52N	172-23W	" "	"	1016		83	75	80	3	0	090/10	83	20	100	048 8.7
1100	16-59N	172-18W	" "	"	1016		83	75	80	3	0	090/12	82	20	100	048 8.7
1200	17-04N	172-12W	" "	"	1016		82	77	84	2	0	100/12	82	20	120	048 8.7
1300	17-09N	172-08W	" "	"	1016		82	77	84	2	0	100/12	82	20	100	048 8.7
1400	17-15N	172-01W	" "	"	1016		82	78	84	2	0	080/12	82	18	070	338 8.6
1500	17-25N	171-48W	" "	"	1015		82	78	84	2	0	080/12	82	18	070	338 8.6
1600	17-33N	171-50W	" "	"	1015		82	75	84	2	0	080/12	82	18	070	338 8.6
1700	17-41N	170-58W	" "	"	1015		82	78	84	2	0	090/6	82	18	070	338 9.6
1800	17-50N	172-02W	" "	"	1015		82	78	84	2	0	090/6	82	18	075	338 9.6
1900	17-59N	172-05W	" "	"	1015		82	78	84	2	0	090/6-	82	18	080	338 9.6
2000	18-08N	172-09W	" "	"	1016		82	78	84	2	0	090/6	82	18	080	338 9.6
2100	18-15N	172-13W	" "	"	1016		82	75	80	2	0	090/8	82	18	080	340 9.6
2200	18-24N	172-17W	" "	"	1016		82	78	84	1	0	090/8	82	14	095	340 9.6
2300	18-32N	172-20W	" "	"	1016		82	78	84	3	1	090/8	82	13	095	340 9.6
2400	18-41N	172-23W	" "	"	1016		82	78	84	2	1	090/6	82	13	095	340 9.6

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE 14 Aug 1964

TIME	LAT	LONG	FRES WEA	VIS	SLP	DRY B	DEW PT	HUMO/0	T1 SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	18-49N	172-28W	Partly Clg	20	1016	82	78	84	3	1	090/6		13	095	340 9.0
0200	18-58N	172-31W	" "	"	"	"	"	"	"	" "	" "		15	096	340 9.0
0300	19-07N	172-35W	" "	"	"	"	"	"	"	" "	" "		15	090	340 9.0
0400	19-15N	172-38W	Partly Clg	20	1016	82	78	84	2	1	090/6		15	090	340 9.0
0500	19-27N	172-36W	Partly Cloudy	20	1015	81	74	83	2	0	090/6	81	16	080	340 9.7
0600	19-35N	172-40W	" "	20	1016	81	74	83	2	0	080/6	81	12	080	340 9.7
0700	19-44N	172-44W	" "	20	1016	82	77	84	2	0	080/5	82	14	080	335 9.7
0800	19-53N	172-49W	" "	20	1016	83	78	88	3	0	080/5	82	15	090	335 9.7
0900	20-00N	172-52W	" "	20	1017	83	75	80	3	2	060/5	82	15	090	335 9.7
1000	20-08N	172-58W	" "	20	1017	82	77	84	5	4	060/5	82	15	080	335 9
1100	20-16N	173-00	" "	20	1017	82	77	84	7	3	060/6	82	17	070	335 9
1200	20-24N	173-04	" "	20	1017	82	77	84	7	4	060/6	82	17	070	335 9
1300	20-34N	173-09	" "	20	1017	82	77	84	7	4	070/6	82	17	080	335 9.0
1400	20-41N	173-13	" "	20	1017	82	77	84	7	4	070/6	82	17	080	335 9.0
1500	20-45N	173-17	" "	20	1017	82	77	84	7	4	070/6	81	17	080	335 9.0
1600	KAMCHUS	Cousens	" "	20	1017	82	77	84	7	4	070/6	81	17	080	335 9.0
1700	20-52N	173-21	" "	20	1015	82	77	84	5	2	070/6	81	18	090	338 9.6
1800	20-58N	173-27	" "	20	1015	82	77	84	4	2	070/6	81	18	100	338 9.6
1900	21-07N	173-25	" "	20	1016	81	74	83	5	3	070/6	81	16	090	338 9.6
2000	21-17N	173-29	" "	20	1016	81	74	83	3	0	070/6	82	16	070	338 9.6
2100	21-26N	173-33W	Few cluds	20	1017	80	74	83	2	0	070/6	82	17	090	338 9
2200	21-35N	173-38W	" "	20	1017	80	74	83	2	0	070/8	82	17	090	338 9.5
2300	21-44N	173-41W	" "	20	1018	80	74	83	1	0	070/8	82	17	090	338 9.5
2400	21-53N	173-45W	" "	20	1017	80	74	83	1	0	070/8	82	17	090	338 9.5

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE 15, Aug 1964 Sat.

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUMO/°	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	20-00 N	173-50 W	Partly Clly	26	1014	80	76	83	2	0	070/8	17	090	338	9.5	
0200	22-13 N	173-55 W	" "	"	1014	81	77	81	2	0	090/8	17	090	338	10.2	
0300	22-23 N	173-59 W	" "	20	1016	82	76	76	2	6	070/8	20	105	338	10.6	
0400	22-32 N	174-04 W	" "	20	1016	82	76	76	2	0	070/8	20	105	338	10.6	
0500	22-37 N	174-24 W	" "	20	1016	80	73	79	4	0	080/6	81	14	085	338	9.6
0600	22-45 N	174-08 W	" "	20	1017	80	74	83	6	4	090/6	81	16	085	338	9.6
0700	22-53 N	174-11 W	" "	20	1017	80	76	87	6	4	090/6	81	16	090	338	9.6
0800	23-02 N	174-15 W	" "	20	1018	78	71	91	8	5	090/6	81	16	100	338	9.6
0900	23-11 N	174-20 W	" "	20	1018	81	76	87	2	0	090/8	81	15	080	338	9.6
1000	23-20 N	174-25 W	" "	20	1018	81	76	87	7	3	090/8	81	20	085	338	9.6
1100	23-22 N	174-29 W	" "	20	1018	81	76	87	6	3	090/8	81	20	085	338	10
1200	23- <del>43</del> 43	174-30 W	" "	20	1018	81	76	87	5	2	090/8	81	18	080	338	10
1300	23-42 N	174-34 W	" "	20	1017	82	78	77	5	2	090/8	81	18	080	338	10
1400	23-45 N	174-32 W	" "	20	1017	82	75	77	5	2	090/8	81	18	080	340	10
1500	23-54 N	174-33 W	" "	20	1017	82	75	77	5	2	090/8	81	18	080	340	9.0
1600	23-56 N	174-39 W	" "	20	1017	82	78	77	5	2	090/8	81	18	080	340	8.6
1700	24-12 N	174-44 W	" "	20	1017	80	71	91	6	2	090/6	81	18	090	340	10
1800	24-21 N	174-49 W	" "	20	1016	80	77	91	8	4	090/6	81	16	095	340	10
1900	24-30 "	174-53 "	" "	20	1016	80	77	91	7	4	090/6	81	16	080	340	10
2000	24-38 "	174-57 "	" "	20	1018	80	77	91	7	4	090/6	81	14	075	340	10
2100	24-48 N	175-02 W	" "	20	1018	79	76	87	6	4	090/8	81	18	280	340	10
2200	24-52 N	175-06 W	" "	20	1018	79	76	87	7	5	090/8	81	18	090	340	10
2300	25-07 N	175-10 W	" "	20	1019	79	76	87	7	6	090/8	81	18	090	340	10
2400	25-17 N	175-13 W	" "	20	1019	79	76	87	5	4	090/8	80	18	090	338	10

REMARKS:

\* Rain squalls

on to date II

near skip

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955

12-5-63

DATE 16 Aug 1964

TIME	LAT	LONG	PRES WEA	VIS	SIP	DRY B	DEW PT	HUMO/%	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	25-25N	175-18W	Rain	3	1019	78	76	91	7	4	090/8	81	20	090	338 10
0200	25-35N	175-22W	"	5	1019	78	76	91	7	4	"	81	20	11	338 10
0300	25-43N	175-25W	"	5	1019	78	76	91	7	4	11	81	20	11	338 10
0400	25-53N	175-35W	"	5	1019	78	76	91	7	4	11	81	20	11	338 10
0500	26-01N	175-33W	Passing Cloudy	10	1019	78	75	91	5	3	100/7	81	16	100	338 10
0600	26-10N	175-27W	" "	20	1019	79	75	91	8	4	100/7	81	16	090	338 10
0700	26-19N	175-42W	" "	20	1019	79	75	91	8	4	100/7	80	14	090	338 10
0800	26-28N	175-45W	" "	20	1019	80	77	91	8	4	090/5	80	14	100	338 10
0900	26-32N	175-51W	" "	20	1019	80	76	87	6	1	090/5	80	12	100	338 10
1000	26-46N	175-56W	" "	20	1019	80	76	87	7	2	090/5	80	13	100	005 10
1100	26-57N	175-58W	" "	20	1019	80	76	87	6	1	090/5	80	13	100	005 10
1200	27-06N	175-53W	" "	20	1019	80	76	87	5	1	100/5	80	13	100	005 10
1300	27-13N	175-53W	" "	20	1018	80	78	91	5	1	100/5	80	14	100	065 9.5
1400	27-27	175-52													
1500	27-37	175-51													
1600	27-46	175-46	F	anchored Pearl & Hermes Reef											
1700															
1800															
1900															
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

1630

DATE 30, Aug 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMO/o	TR SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															
0700															
0800															
0900															
1000															
1100															
1200															
1300															
1400															
1500															
1600	27-55N	175-41W	Partly cl.	20	1018	82	76	76	5	1	0	7	130	130	10.0
1700	27-42N	175-34W	" "	20	1019	82	72	8375	4	1	110/5	80	06	045	140 10
1800	27-39N	175-27W	" "	20	1021	80	70	72	3	1	110/5	80	05	045	140 10
1900	27-31N	175-20W	" "	20	1021	80	70	72	3	1	110/5	80	5	045	140 10
2000	27-24N	175-14W	" "	20	1021	80	70	72	3	1	110/5	80	2	045	140 10
2100	27-15N	175-08W	" "	22	1020	79	70	72	1	0	110/5	80	20	148	10
2200	27-07N	175-03W	" "	20	1018	79	70	72	1	0	110/4	80	20	148	10
2300	26-58N	174-57W	" "	20	1018	79	70	72	1	0	110/4	80	20	148	10
2400	26-50W	174-49W	" "	20	1018	79	70	22	1	0	110/4	80	20	148	10.0

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE 25 Aug 1964

TIME	LAT	LONG	FRES WEA	VIS	SIP	DRY B	DEW PT	HUM% O	T/L SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.	
0100	26-41'2 N	174-44'4 W	Partly ch	20	1018	79	70	72	1	0	110/4		Cris.	448 15° 10. 0		
0200	26-33'N	174-39'W	" " "	11	1018	79	70		1	0	090/4		00	150 10		
0300	26-24'W	174-33'00"	" " "	11	1018	79	70		1	0	"			15-0 10		
0400	26-18'00"	174-30'00"	" " "	11	1018	80	71		1	0	"			122 10		
0500	26-13'N	174-17'W	" " "	11	1018	78°	69	75	1	0	090/3		07 025	122 10		
0600	26-10'N	174-13'W	" " "	20	1018	78	69	75	2	0	090/3		AIRS	122 5		
0700	26-05.5'N	174-05.5'W	" " "	20	1018	78	69	75	2	1	090/3		AIRS	120 10		
0800	26-03'N	173-58'W	" " "	20	1017	83°	73	69	0	0	090/3		AIRS	ANCHOR		
0900																
1000			ANCHORED AT LISIANSKI ISLAND													
1100																
1200																
1300																
1400																
1500																
1600																
1700																
1800																
1900																
2000																
2100																
2200																
2300																
2400																

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE 23 Aug 1964 Sunday

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY R	DEW PT	HUMO/°	TH SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600	06-15	Auckars	awegh												
0700	0730	Depart	Lisianski Is												
0800	26-08N	173-52W	Ph Ctry	20	1009	81	73	79	21	0	100/2	80	10	100	081 10.0
0900	26-10N	173-45W	" "	"	"	81	73	79	"	"	100/2	"	10	100	081 10.0
1000	26-11N	173-34W	" "	"	"	82	74	69	"	"	100/2	"	10	100	083 10.0
1100	26-13N	173-23W	" "	"	"	82	74	69	"	"	100/3	"	10	100	085 10.0
1200	26-15N	173-12W	" "	"	"	1020	81	76	66	"	100/3	"	10	100	087 10.0
1300	26-17N	173-01W	" "	"	"	1020	84	76	68	"	100/3	80	10	100	085 10.0
1400	26-18W	172-52W	" "	"	"	1020	84	76	68	"	110/3	80	15	100	085 10.0
1500	26-20N	172-41W	" "	"	"	1020	84	76	68	"	100/3	80	23	100	085 10.0
1600	26-22N	172-30W	" "	"	"	1020	84	76	68	"	100/3	80	15	100	085 10.0
1700	26-27N	172-19W	" "	"	"	1020	82	74	76	3	100/4	180	12	085	085 10.0
1800	26-23N	171-47W	" "	"	"	1020	82	72	72	1	100/4	180	12	080	085 10.0
1900	26-23N	171-58W	" "	"	"	1020	81	72	72	5	100/4	170	12	070	10.0
2000	26-21N	171-46W	" "	"	"	1019	80	72	75	2	100/4	80	13	085	10.0
2100	26-19N	171-35W	" "	"	"	1017	80	72	75	2	100/4	80	13	085	10.0
2200	26-16N	171-23W	" "	"	"	1013	80	72	75	2	100/4	80	13	080	10.0
2300	26-14N	171-15W	" "	"	"	1010	80	72	75	3	100/5	80	14	080	10.0
2400	26-11N	171-04W	" "	"	"	20	1012	80	72	75	3	2	200/5	80	15 080 10.0 9.7

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE 24, Aug 1964 Monday

TIME	LAT	LONG	PRES WEA	VIS	SIP	DRY B	DEW PT	HUM/O	TH SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	26-09N	170-54W	Partly Ch	10	1019	80	72	75	5	2	070/5	81	15	080	105 9.7
0200	26-06N	170-43W	cc 21	20	1018	78	74	83	6	3	095/3	81	20	095	105 9.7
0300	26-04N	170-33W	11 2	20	1018	75	74	83	7	3	095/3	81	20	095	105 9.7
0400	26-02W	170-22W	11 11	20	1018	75	74	83	7	2	095/3	81	20	095	105 9.7
0500	25-59N	170-10W	" "	20	1018	78	71	79	6	5	100/4	81	18	095	105 9.0
0600	25-57N	170-01W	" "	20	1018	74	71	79	4	3	100/4	80	15	090	105 9.0
0700	25-54N	170-01W	" "	20	1018	80	73	79	3	2	100/4	80	15	090	105 9.0
0800	25-52N	169-51W	" "	20	1018	80	73	79	4	4	100/4	80	15	090	105 9.0
0900	25-50N	169-42W	Mod Ch	20	1019	80	72	75	8	6	060/6	80	15	080	105 9
1000	25-48N	169-33W	Mod Ch	20	1019	80	72	75	5	2	070/6	80	15	080	105 9
1100	25-46W	169-23W	" "	20	1018	81	72	75	3	1	080/6	80	16	090	105 9.7
1200	25-44W	169-14W	" "	20	1018	80	72	75	2	0	035/5	80	15	090	105 9.7
1300	25-41N	169-04W	" "	20	1018	80	72	75	2	0	080/6	75	05	080	105 8.2
1400	25-40N	168-53W	" "	20	1015	84	74	62	2	0	090/4	15	050	105 8.2	
1500	25-39N	168-49W	17	20	1018	86	76	63	2	0	080/4	15	050	105 8.0	
1600	25-23N	168-38W	" "	20	1018	88	78	63	5	0	090/4	15	080	105 8.5	
1700	25-34N	168-30W	" "	20	1017	80	72	75	7	5	080/4	80	14	100	105 8.5
1800	25-32N	168-21W	" "	20	1017	80	72	75	8	5	080/4	80	14	100	105 8.5
1900	25-30N	168-13W	" "	20	1017	80	72	75	8	5	080/4	80	15	100	105 8.7
2000	25-28N	168-04W	" "	20	1018	78	72	83	8	5	080/4	80	17	095	105 8.7
2100	25-26N	167-55W	" "	20	1018	78	72	82	7	5	080/5	80	15	100	105 8.5
2200	25-24N	167-45W	" "	10	1019	78	72	83	8	7	080/5	80	15	100	105 8.5
2300	25-22N	167-36W	" "	15	1019	78	72	83	7	5	080/5	80	12	120	105 8.5
2400	25-19N	166-27W	" "	22	1018	79	72	83	5	7	130/6	80	15	100	105 8.7

REMARKS:

\* HEAVY RAIN SWALL 0740 - 0747

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955

12-5-63

DATE 25 Aug 1964 Tuesday

TIME	LAT	LONG	FRES	WEA	VIS	SLP	DRY B	DEW PT	HUMO/O	TG SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	25-18N	167-18W	Partly	Cly	20	1019	78	74	83	5	2	100/6	79	15	100	105 8.7
0200	25-18N	167-09W	"	"	10	"	78	71	83	3	1	100/6	79	18	11	11 8.7
0300	25-13N	167-00W	"	"	1017	"	78	71	83	2	1	100/6	79	15	100	105 8.7
0400	25-10W	166-51W	"	"	11	"	78	72	83	1	1	100/6	79	11	11	11 8.7
0500	25-04N	166-40W	"	"	1017	"	78	72	83	4	2	100/5	79	15	100	105 8.9
0600	25-02N	166-30W	"	"	1018	"	79	71	79	3	3	100/4	79	14	100	105 8.9
0700	24-59N	166-21W	"	"	1018	"	80	74	83	4	2	100/4	80	12	100	105 9
0800	24-46N	166-11W	"	"	1019	"	80	76	87	4	2	100/4	80	10	100	105 9
0900	24-37N	166-07W	"	"	1019	"	80	72	75	1	0	100/5	79	13	090	105 9
1000	24-44N	166-00W	"	"	1017	"	80	72	75	"	"	100/5	79	13	090	105 9.5
1100	24-42N	165-39W	"	"	1019	"	80	72	75	1	0	100/5	75	15	090	105 9.5
1200	24-41N	165-29W	"	"	1019	"	80	72	75	"	0	100/5	75	15	090	105 8.2
1300	24-37N	165-20W	"	"	1012	"	80	72	75	1	0	100/5	75	15	090	105 8.7
1400	24-35N	165-16W	"	"	1018	"	98	78	70	2	0	100/5	80	15	090	105 9.7
1500	24-30N	164-58W	"	"	1018	"	98	78	70	2	0	100/5	80	15	090	105 9.7
1600	24-21N	164-45W	"	"	1018	"	98	78	70	2	0	100/5	80	15	090	105 9.2
1700	24-21N	164-38W	"	"	1018	"	80	72	75	2	2	100/5	81	14	085	105 9.8
1800	24-25N	164-32W	"	"	1018	"	79	69	75	2	2	070/5	80	14	090	105 9.8
1900	24-25N	164-16W	"	"	1018	"	79	70	75	2	2	070/5	80	14	090	105 9.8
2000	24-22N	164-08W	"	"	1019	"	79	72	74	2	2	070/5	80	12	090	105 9.8
2100	24-22N	163-53N	"	"	1019	"	78	71	79	1	1	070/5	80	12	090	105 8.8
2200	24-19N	163-42W	"	"	1018	"	78	72	83	2	1	070/7/6	80	13	070	105 9.8
2300	24-16N	163-32W	"	"	1019	"	78	71	79	1	0	070/7/7	80	13	070	105 9.8
2400	24-15N	163-21W	"	"	1019	"	78	71	79	1	0	070/7/6	80	13	050	105 9.8

REMARKS:

0.9-12.3+

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955

12-5-63

DATE 26 Aug 1964 Wed.

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TR SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.	
0100	24-09 N	163-13 W	Partly Cn	20	1019	78	71	79	3	0	060/7/6	80	13	080	105° 10.0	
0200	24-04 N	163-02 W	" "	11	1019	78	71	79	4	2	060/7/6	80	13	080	105° 10.0	
0300	24-02 N	162-51 W	" "	11	1018	75	74	72	6	3	060/7/6	80	13	080	105° 10.0	
0400	24-00 N	162-40 W	" "	11	1018	78	74	72	6	3	060/7/6	80	13	080	105° 10.0	
0500	23-58 N	162-29 W	" "	20	1018	78	71	75	3	3	070/6/6	80	12	080	105° 10	
0600	23-55 N	162-18 W	" "	20	1018	74	69	75	4	3	070/5/6	80	10	090	105° 10	
0700	23-52 N	162-08 W	" "	20	1018	79	69	75	4	3	070/4/5	80	10	050	105° 10	
0800	23-50 N	161-58 W	" "	20	1018	80	72	75	7	4	070/4/5	80	11	075	105° 10	
0900	23-48 N	161-52 W	" "	20	1019	80	68	68	3	1	070/4/5	82	16	070	135° 10	
1000	23-34 N	161-43 W	" "	20	1019	80	72	75	7	3	070/4/5	80	13	075	130° 10	
1100	23-26 N	161-35 W	" "	20	1018	80	70	72	4	1	070/4/5	80	12	070	130° 10	
1200	23-19 N	161-29 W	" "	20	1018	80	72	72	7	1	070/4/5	80	12	070	130° 10	
1300	23-13 N	161-20 W	" "	20	1018	80	70	72	6	0	070/4/5	72		070	130° 20.0	
1400	23-08 N	161-13 W	" "	11	71	50	70	72	2	1	070/7/6	73		070	130° 10.0	
1500	23-02 N	161-05 W	" "	11	71	54	77	70	3	0	070/7/6	74		070	130° 10.0	
1600	22-54 N	160-57 W	" "	11	71	56	58	58	74	3	0	070/7/6	75		070	130° 10.0
1700	22-47 N	160-50 W	" "	20	1016	79	68	71	2	2	070/6/6	80	10	080	130° 10	
1800	22-40 N	160-42 W	" "	20	1016	77	68	71	3	1	070/6/6	80	10	080	130° 10	
1900	22-30 N	160-32 W	" "	20	1016	79	69	75	2	1	070/6/6	80	10	090	130° 10	
2000	22-23 N	160-24 W	" "	20	1016	79	69	75	2	1	070/6/6	80	11	095	130° 10	
2100	22-21 N	160-17 W	" "	20	1017	78	69	75	1	0	070/4/4	82	12	070	135° 10	
2200	22-23 N	160-15 W	" "	20	1018	73	69	75	1	0	070/4/4	77	12	070	125° 9.5	
2300	22-06 N	160-07 W	" "	20	1017	78	69	75	1	0	070/5/4	80	12	030	135° 9.5	
2400	" "	" "	20	1017	78	67	75	1	0	070/5/4	80	12	030	135° 8.5		

REMARKS:

Advance charts 20 m

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955

12-5-63

DATE 4 Aug 1963B380

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY PT	DEW PT	HUMO/0	TR SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	20-18N	160-37W													
0200	20-14N	160-46W													
0300	20-10N	160-57W													
0400	20-06N	161-06W													
0500	20-02N	161-17W													
0600	19-57N	161-28W	FEW CLOUDS	30	1017	82	77	91	21	0	110/4	80	15	110	245 10.4
0700	19-53N	161-37W	FEW CLOUDS	30	1017	82	77	91	21	0	110/4	80	15	110	245 10.4
0800	19-49N	161-47W	FEW CLOUDS	30 1016	83	79	88	21	1	0	110/4	80	15	110	245 10.4
0900	19-47N	161-52W	" "	30	1017	82	78	71	21	0	100/4	80	15	107	245 10.4
1000	19-45N	162-01W	" "	30	1017	82	78	91	21	0	100/4	80	18	090	245 10.4
1100	19-44N	162-09W	" "	30	1016	82	77	91	3	0	100/5	80	17	080	drifting
1200	19-43N	162-19W	" "	30	1016	82	77	91	3	0	100/5	80	17	080	
1300	19-34N	162-27W	" "	30	1017	84	78	91	3	0	100/5	80	20	075	drifting 9.3
1400	19-34N	162-37W	" "	30	1017	84	78	91	3	0	100/5	80	20	075	245 8.6
1500	19-35N	162-37W	" "	30	1017	84	78	92	3	0	100/5	81	20	070	240 8.6
1600	19-28N	162-42W	" "	30	1017	82	79	92	3	0	100/5	81	15	070	245 10.3
1700	19-24N	162-52W	" "	30	1016	82	79	88	3	0	100/5	81	15	070	245 10.3
1800	19-21N	163-01W	" "	30	1016	82	79	88	3	0	100/5	81	15	070	245 10.3
1900	19-18N	163-14W	" "	30	1016	81	78	91	3	0	100/5	80	10	080	245 10.3
2000	19-14N	163-25W	" "	30	1016	80	78	91	4	0	100/4	80	15	070	245 10.3
2100	19-10N	163-29W	" "	30	1017	80	77	91	1	0	100/4	80	15	070	245 10.3
2200	19-06N	163-38W	CLOUDS	20	1018	83	77	91	0	0	090/4	80	15	070	245 10.3
2300	19-02N	163-42W	Few Clouds	20	1017	82	77	91	1	0	080/4	80	15	070	245 10.3
2400	18-58N	163-57W	Foggy	20	1017	80	72	91	3	1	080/4	80	15	070	245 10.3

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
 WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955

12-5-63

DATE 5 Aug 1964

TIME	LAT	LONG	FRES WEA	VIS	SLP	DRY B	DEW PT	HUMO/%	T1 SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.	
0100	18° 51' N	164° 01' W	Few Cls	20	1017	80	77	91	3	1	075/3	80	10	075	245 10.3	
0200	18° 47' N	164° 10' W	" "	10	" "	80	77	88	2	1	1100	11	9	11	" 10.3	
0300	18° 48' N	164° 19' W	" "	11	" "	80	77	86	2	1	1100	11	9	11	" 10.3	
0400	18° 42' N	164° 34' W	" "	11	" "	80	77	85	2	1	1100	11	9	11	" 10.3	
0500	18° 39' N	164° 43' W	" "	20	1016	81	77	84	2	1	075/3	80	08	085	245 10 Kts	
0600	18° 35' N	164° 52' W	" "	20	1016	82	77	84	2	0	075/3	80	08	085	245 10 Kts	
0700	18° 30' N	165° 03' W	" "	70	1016	83	79	88	3	0	080/3	80	08	085	245 10 Kts	
0800	18° 26' N	165° 13' W	" "	20	1016	84	77	79	3	0	080/3	81	10	085	245 10 Kts	
0900	18° 21' N	165° 28' W	Pt. Cldy	70	1017	84	77	80	3	1	080/4	81	13	070	245 10 Kts	
1000	18° 16' N	165° 34' W	" "	20	1017	86	75	70	3	1	080/4	81	13	020	245 10.3	
1100	18° 12' N	165° 44' W	" "	20	1016	85	76	73	3	0	080/4	81	13	070	245 10.3	
1200	18° 05' N	165° 53' W	" "	6	1016	85	76	73	3	0	050/4	81	13	080	245 10.3	
1300	18° 06' N	165° 54' W	" "	11	" "	1016	86	78	73	3	0	050/4	81	13	080	245 10.3
1400	18° 04' N	166° 09' W	" "	11	" "	1016	88	82	77	3	0	050/4	81	13	080	245 10.4
1500	18° N	166° 20' W	" "	11	" "	1016	88	82	77	3	0	050/4	81	13	080	245 10.4
1600	17° 53' N	166° 29' W	" "	20	1014	88	85	92	3	0	050/4	82	13	080	245 10.3	
1700	17° 49' N	166° 39' W	" "	20	1014	84	80	84	3	0	050/4	82	12	080	245 10.3	
1800	17° 45' N	166° 49' W	" "	20	1014	82	74	76	3	0	050/4	82	10	080	245 10.3	
1900	17° 44' N	166° 58' W	Few Clds	23	1015	80	74	83	1	0	050/4	82	16	090	245 10.3	
2000	17° 42' N	167° 09' W	" "	20	1015	80	74	83	1	0	050/4	82	16	090	245 10.3	
2100	17° 35' N	167° 18' W	" "	20	1015	80	74	83	2	0	060/4	82	16	090	245 10.3	
2200	17° 32' N	167° 29' W	" "	20	1015	80	74	83	1	0	060/4	82	15	090	245 10.3	
2300	17° 28' N	167° 40' W	" "	20	1016	80	74	83	1	0	060/4	82	15	090	245 10.3	
2400	17° 24' N	167° 53' W	" "	20	1016	80	74	83	2	0	060/4	82	15	090	245 10.3	

REMARKS:

X-ray

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE 6 Aug 1964 Thursday

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM%	TH SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	17° 18' N	168° 01' W	Few Clouds	20	1016	80	79	82	8	60/4	60/4	81	20	090	245	10.3
0200	17° 14' N	168° 10' W	" "	11	1016	"	"	"	"	7	60/4	81	11	"	"	"
0300	17° 09' N	168° 19' W	" "	11	1014	80	78	77	1	1	60/4	81	20	090	245	10.3
0400	17° 05' N	168° 29' W	" "	11	1014	80	74	77	1	1	60/4	81	20	090	245	10.3
0500	17° 02' N	168° 39' W	" "	11	1013	82	74	76	2	1	60/4	80	18	090	245	10.3
0600	16° 58' N	168° 58' W	" "	11	1013	82	74	76	3	1	60/4	80	18	090	245	10.4
0700	16° 54' N	169° 00' W	Partly Cloudy	"	1013	83	75	76	"	1	60/4	80	18	090	245	10.4
0800	16° 50' N	169° 10' W	" "	11	1013	84	76	76	7	1	60/4	80	18	090	245	10.4
0900	16° 44' N	169° 18' W	" "	11	1015	84	76	76	2	1	60/4	80	18	090	245	10.4
1000	16° 39' N	169° 28' W	" "	11	1015	84	76	76	3	0	60/4	80	18	090	245	10.4
1100	16° 31' N	169° 37' W	" "	11	1014	82	74	76	2	0	60/5	80	18	100	163	10 Km
1200	16° 21' N	169° 24' W	" "	11	1014	82	74	76	2	0	60/5	80	18	100	160	10 Km
1300	16° 16' N	169° 20' W	" "	11	1014	82	75	80	4	1	60/5	82	18	100	160	10 Km
1400	16° 07' N	169° 16' W	" "	11	1013	82	75	80	3	0	60/5	82	18	100	160	10 Km
1500	16° 36' N	169° 12' W	" "	11	1011	82	75	80	2	0	60/5	82	18	100	160	10 Km
1600	16° 45' N	169° 11' W	" "	11	1011	82	75	80	3	0	60/5	82	18	100	160	10 Km
1700	15° 51' N	169° 10' W	" "	11	1011	82	78	88	4	0	60/5	81	18	100	160	10 Km
1800	15° 31' N	169° 08' W	" "	11	1011	82	78	88	4	0	60/5	80	18	100	160	10 Km
1900	15° 22' N	169° 06' W	" "	11	1012	82	78	88	4	0	60/5	80	18	100	160	10 Km
2000	15° 13' N	169° 04' W	" "	11	1014	81	78	87	4	0	60/5	80	18	100	160	10 Km
2100	15° 05' N	169° 03' W	" "	11	1014	81	78	88	9	9	60/5	81	18	090	150	9 Km
2200	14° 56' N	168° 59' W	" "	11	1015	81	78	88	4	3	60/5	81	18	090	150	9 Km
2300	14° 47' N	168° 55' W	" "	11	1015	81	78	88	1	0	60/5	81	18	090	150	9 Km
2400	14° 39' N	168° 52' W														

REMARKS:

Xray

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE 10 Aug 1964

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM%	TH SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	13-54N	171-44W	rain	5	1012	82	79	92	8	9	080/8	82	15	070	228	10.0
0200	13-44N	171-57W	"	5	1012	82	79	92	8	9	080/8	92	15	070	335	10
0300	13-37N	172-00W	"	5	1012	82	79	92	8	9	070/5	52	15	070	228	10
0400	13-30N	172-13W	Partly cl	20	1014	82	79	92	6	0	070/3	52	15	070	228	10
0500	13-25N	172-21W	Partly cl	20	1012	82	78	90	8	0	090/7	82	12	070	228	10+
0600	13-21N	172-30W	" "	20	1010	80	77	91	6	3	090/7	82	8	080	228	10+
0700	13-18N	172-33W	" "	20	1010	82	78	90	6	4	090/7	82	5	090	315	10+
0800	13-26N	172-41W	" "	20	1011	82	79	92	6	4	090/7	82	10	100	315	10+
0900	13-33N	172-48W	" "	20	1012	82	79	84	8	4	090/7	82	7	100	315	10.5
1000	13-41N	172-56W	" "	20	1012	86	81	84	5	2	090/7	82	10	100	315	10.5
1100	13-48N	173-03W	" "	20	1012	86	81	84	5	2	090/7	82	12	100	315	10.5
1200	13-58N	173-04W	" "	20	1012	84	79	84	7	3	090/7	82	10	100	245	10
1300	14-02N	172-56W	" "	20	1012	84	79	84	7	3	090/8	82	10	100	245	10
1400	14-09N	173-50W	" "	20	1012	84	79	84	7	3	090/3	52	10	100	045	10
1500	14-16N	172-44W	" "	20	1012	84	79	84	7	3	090/3	32	10	100	045	20
1600	14-22N	172-35W	" "	20	1012	84	79	84	7	3	090/3	82	10	100	045	20
1700	14-26N	172-30W	MOSTLY CLOUDS	5-10	1011	82	79	84	7	2	070/5	"	10	100	045	9.1
1800	14-32N	172-23W	INTERMITTENT SQUALLS	5-10	1011	80	77	91	7	3	070/5	"	10	110	045	9.1
1900	14-39N	172-17W	SQUALLS	5	1011	80	79	91	7	4	070/5	"	10	110	045	9.1
2000	14-46N	172-10W	"	5	1011	80	79	96	7	4	070/5	"	10	110	045	9.1
2100	14-52N	172-03W	OCAST W	10	1012	80	77	91	8	6	070/5	"	7	110	045	9
2200	14-59N	171-56W	SQUALLS	5	1012	82	77	91	9	8	070/5	82	7	110	245	9
2300	15-06N	171-50W	"	5	1012	80	77	91	9	8	070/5	82	3-5	225	245	9
2400	15-12N	171-43W	"	10	1012	80	77	91	9	7	070/5	82	8	170	245	9

REMARKS:

0530 HEAVY RAIN SQUALL

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE Tuesday 11 Aug 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMO/°	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	15-18 N	171-34 W	Rain	5	1012	80	78	91	9	6	110/3	81	20	225	045° 10.0
0200	15-26 N	171-28 W	Rain	1	1011	80	78	91	9-	8	110/5-	81	20	045	045 10.0
0300	15-34 N	171-20 W	Rain	3	1011	80	78	91	9-	8	110/5-	81	20	045	045 10.0
0400	15° 42 N	171-12 W	Rain	5	1011	80	78	91	9-	8	100/3-	81	20	045	045 10.0
0500	15-49 N	171-04 W	LT "	5	1012	78	78	91	10	0	100/3-	80	18	045	045 10
0600	15-52 N	170-58 W	LT "	5	1013	77	77	96-	10	0	100/3-	80	14	125	045 10
0700	15-59 N	170-54 W	OCAST	5	1013	76	75	95	10	0	100/3-	80	16	120	045 10
0800	16-06 N	170-47 W	"Drizzle"	5	1014	76	75	95	10	0	100/3-	80	18	115	045 10
0900	16-13 N	170-42 W	OCAST	5	1014	78	77	97	91	10	5	100/5	80	18	045 10
1000	16-20 N	170-44 W	"	20	1014	78	75	91	10	5	100/5-	80	18	110	343 10
1100	16-24 N	170-52 W	"	20	1013	78	75	91	10	5	100/5-	80	18	110	313 10
1200	16-26 N	170-58 W	"	20	1013	80	77	91	10	5	100/5-	80	18	110	313 10
1300	16-35 N	171-04 W	"	15	1013	80	78	91	10	6	115/3	81	18	115	325 10.0
1400	16-45 N	171-09 W	"	15	1013	80	78	91	8	6	115/3	81	18	115	325 10.0
1500	16-42 N	171-18 W	"	15	1013	80	78	91	8	6	115/3	81	15	115	325 10.0
1600	16-37 N	171-26 W	"	20	1013	82	86	92	8	6	115/1	81	19	150	225 10.0
1700	16-30 N	171-33 W	Part Cloudy	20	1013	82	79	92	7	5	120/5	81	15	130	225 10
1800	16-23 N	171-40 W	" "	20	1013	82	79	92	7	5	120/5-	81	12	180	225 10
1900	16-17 N	171-51 W	" "	20	1013	82	79	92	6-	5	120/5-	81	14	110	225 10
2000	16-10 N	171-59 W	" "	20	1014	81	79	92	5-	5	120/5-	80	17	120	225 10
2100	16-03 N	172-02 W	" "	20	1015	81	76	87	7	5	120/5	80	15	110	225 10
2200	15-58 N	172-15 W	O'cast	20	1015	81	76	87	9	2	120/3	80	12	100	222 10
2300	15-42 N	172-22 W	"	20	1015	81	76	87	8	5-	120/5	80	13	100	222 10
2400	15-39 N	172-29 W	Pty Cloudy	20	1015	81	76	87	6	3	120/5	80	12	100	222 10

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE Wed 12 Aug 1964

TIME	LAT	LONG	FRES WEA	VIS	SIP	DRY B	DEW PT	HUMO/°	T/L SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	16°31'N	172-36'W	Partly Cls	20	1015	81	76	87	6	3	120/5	80	12	100	222 10.0
0200	15-24'N	172-43'W	" "	20	1014	82	80	91	6	3	120/4	81	18	120	225 10.0
0300	15-16'N	172-50'W	" "	20	1014	82	80	91	6	3	120/4	81	18	120	225 10.0
0400	15-09'N	172-58'W	" "	20	1014	82	80	91	6	3	120/4	81	18	120	225 10.3
0500	15-03'N	173-05'N	" "	20	1014	82	77	91	4	2	120/4	81	16	100	225 10.3
0600	14-56'N	173-13'W	" "	20	1014	81	76	87	4	1	120/5	81	16	090	225 10.3
0700	14-54'N	173-15'W	" "	20	1014	84	74	83	5	1	120/5	81	16	090	about 6
0800	14-50'N	173-18'N	" "	20	1014	84	79	84	6	2	120/5	81	12	080	223 10
0900	14-42'N	173-24'W	" "	20	1015	84	77	84	4	1	120/5	81	12	080	223 10
1000	14-33'N	173-33'W	" "	20	1016	85	77	80	3	0	120/5	81	13	080	223 10
1100	14-26'N	173-42'W	" "	20	1016	83	78	88	4	1	120/5	81	12	080	315 10
1200	14-13'N	173-50'W	" "	20	1015	82	78	88	3	0	120/5	81	13	080	315 10
1300	14-03'N	173-58'W	" "	20	1015	82	75	88	3	0	120/5	81	13	080	315 10
1400	14-57'W	174-05'W	" "	20	1015	82	75	88	3	0	120/5	81	15	090	315 10
1500	14-59'W	174-14'W	" "	20	1015	82	75	85	3	0	120/5	81	13	080	315 10
1600	15-20'N	174-17'W	" "	20	1015	82	78	88	3	0	120/5	81	20	090	045 10
1700	15-15'N	174-06'W	" "	20	1015	82	78	88	4	0	100/5	81	16	090	045 10
1800	15-21'N	173-58'W	" "	20	1016	82	78	88	6	0	090/5	81	12	080	045 10
1900	15-29'N	173-56'W	" "	20	1014	82	72	83	3	0	090/5	81	14	080	045 10
2000	15-34'N	173-51'W	" "	20	1014	82	72	83	3	0	090/5	81	14	080	045 9
2100	15-41'N	173-44'W	" "风浪	20	1015	82	78	88	3	1	090/5	81	13	080	348 9
2200	15-47'N	173-38'W	Few Cls	20	1016	82	77	84	1	0	090/5	81	13	080	048 9
2300	15-52'N	173-29'W	Chg Old	20	1016	82	77	84	4	2	090/5	81	15	090	048 9
2400	15-58'N	173-24'W	" "	20	1015	82	77	89	5	2	090/5	81	15	090	048 9

REMARKS:

X425

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE 3 Aug 1964 Friday

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUMO/%	TR SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.	
0100	1730 N	168°50'W	Partly Cl	20	1015	81	78	88	1	0	100/5	81	15	090	130	9K4	
0200	14020N	168057'W	"	11	11	82	80	92	1	0	110/4	81	16	110	220	16K4	
0300	14014N	169°07'W	"	11	11	82	80	92	1	0	110/4	81	16	110	220	16K4	
0400	14°07N	169016'W	"	11	20	1013	82	80	92	1	0	110/4	81	16	110	220	16K4
0500	14-04N	169-13W	"	11	20	1013	81	77	85	1	0	110/4	81	16	110	220	16K
0600	13-56N	169-20W	"	11	20	1012	81	77	83	2	0	110/4	81	16	110	220	16K
0700	13-52N	169-24W	"	11	20	1012	82	77	84	2	0	110/4	81	17	090	M44 Hove To	
0800	13-47N	169-28W	"	11	20	1013	84	80	88	3	0	110/4	80	18	080	222 10	
0900	13-39N	169-38W	"	11	20	1013	84	76	76	7	4	120/5	80	18	090	222 10	
1000	13-30N	169-46W	"	11	22	1013	84	76	76	8	5	120/5	80	18	090	222 10	
1100	13-24N	169-54W	"	11	20	1012	84	76	76	3	0	120/5	80	18	090	222 10	
1200	13-16N	170-02W	"	11	20	1012	84	76	76	3	0	120/5	80	18	090	222 10	
1300	130-07N	170-03W	"	11	20	1012	84	76	76	3	0	100/5	81	18	090	222 10	
1400	130-02N	170-16W	"	11	20	1011	92	88	85	2	0	100/5	87	18	090	222 10	
1500	120531N	170-25W	"	11	20	1011	92	88	85	2	0	100/5	81	18	090	222 10	
1600	120475N	170-31W	"	11	20	1011	92	88	85	2	0	100/5	81	18	090	222 10	
1700	12-40N	170-39W	"	11	20	1011	84	77	80	6	0	090/5	81	18	080	222 10	
1800	12-33N	170-46W	"	11	20	1010	83	79	84	8	0	090/5	81	18	070	222 10	
1900	12-30N	170-52W	"	11	20	1011	81	82	76	7	0	090/5	82	18	070	222 10	
2000	12-24N	171-00W	"	11	20	1011	78	77	91	6	0	090/5	82	18	070	222 10	
2100	12-14N	171-02W	Wdsw	20	1012	80	77	91	7	1	090/5	81	16	070	222 10		
2200	12-08N	171-17W	"	11	20	1012	80	77	91	4	2	070/5	81	18	070	312 10	
2300	12-15N	171-25W	"	11	20	1012	82	79	92	1	0	070/5	82	18	070	312 10	
2400	12-22N	171-34W	"	11	20	1012	82	79	92	1	0	070/5	82	18	070	312 10	

REMARKS:

X-ray

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE 8 Aug. 1964 Sat.

TIME	LAT	LONG	FRES WEA	VIS	SIP	DRY B	DEW PT	HUMO/°	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	12-27 N	171-43 W	Ptly Clby	12in	1012	72	80	92	1	0	070/5	81	20	070	312 10
0200	12-36 N	171-51 W	" " Squalls	12in	1012	82	80	92	1	0	070/5	81	25	070	312 10
0300	12-42 N	171-59 W	" "	"	1012	82	80	92	1	0	070/8	81	30	070	045 8.5
0400	12-46 N	171-47 W	" "	"	1012	82	80	92	1	0	070/8	81	20	070	045 8.5
0500	12-53 N	171-43 W	" "	20	1011	82	80	92	4	0	080/8	81	18	070	045 8.5
0600	12-59 N	171-40 W	" "	20	1011	82	80	92	7	3	080/8	81	15	080	045 8.5
0700	13-01 N	171-38 W	" "	15	1011	82	80	82	6	3	080/8	81	16	080	050 8.5
0800	13-07 N	171-32 W	" "	15	1011	82	80	92	6	3	080/8	81	16	080	050 8.5
0900	13-13 N	171-28 W	" " 40in	15	1012	80	77	91	9	8	080/12	81	20	080	050 8.5
1000	13-20 N	171-22 W	" "	15	1012	80	77	91	9	9	080/12	81	20	080	050 8.5
1100	13-36 N	171-16 W	" " 4in	10	1012	80	77	91	8	8	100/12	81	16	080	050 8.5
1200	13-34 N	171-12 W	" "	10	1012	80	77	91	8	8	100/12	81	15	090	050 8.5
1300	13-39 N	171-06 W	Ptly Clby	7	1012	80	77	91	8	7	100/12	81	15	090	050 8.5
1400	13-46 N	171-00 W	" " 4in	2 - 1011	80	77	91	8	6	100/12	81	16	080	050 8.5	
1500	13-53 N	170-54 W	" " "	5	1011	80	77	91	8	6	100/12	81	18	090	050 8.5
1600	13-58 N	170-48 W	" "	10 - 1011	80	77	91	8	8	090/12	81	15	080	050 8.5	
1700	14-03 N	170-41 W	" "	20	1011	81	77	92	7	7	090/12	81	15	080	050 8.5
1800	14-07 N	170-33 W	" "	20	1011	82	78	88	6	5	080/12	81	15	080	060 8.5
1900	14-12 N	170-26 W	" "	20	1010	82	78	88	5	3	080/10	81	15	080	060 8.5
2000	14-17 N	170-19 W	" "	20	1011	82	78	88	5	3	080/10	81	15	080	060 8.5
2100	14-23 N	170-13 W	" "	20	1012	81	76	87	4	3	080/10	81	15	080	045 8.5
2200	14-28 N	170-06 W	" "	20	1013	80	74	83	1	0	080/10	81	15	080	045 8.5
2300	14-34 N	169-59 W	Clear	20	1013	81	76	87	0	0	080/10	81	16	080	045 8.5
2400	14-39 N	169-53 W	Clear	20	1013	81	76	87	0	0	080/10	81	16	080	045 8.5

REMARKS:

*1121*  
ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE 9 May 1964 Sunday

TIME	LAT	LONG	FRES WEA	VIS	SIP	DRY P	DEW PT	HUMO/°	TR SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	14-38N	169-48W	Partly C1	20	1013	82	76	76	0	0	080/80	81	18	080	045 9.0
0200	14-42N	169-42W	" "	20	1013	81	78	84	0	0	080/12	81	20	070	045 9.0
0300	14-45N	169-38W	" "	20	1013	82	75	84	0	0	080/12	81	20	070	045 9.0
0400	14-49N	169-33W	" "	20	1013	82	78	84	0	0	080/12	81	20	080	316 9.0
0500	14-56N	169-38W	" "	20	1013	82	78	84	1	0	080/12	81	18	070	345 10.0
0600	15-03N	169-47W	" "	20	1013	81	74	83	3	0	080/12	81	18	070	345 10.0
0700	15-07N	169-51W	" "	20	1013	81	74	83	2	0	080/12	81	15	070	070 10
0800	15-11N	169-53W	" "	20	1013	81	74	83	2	0	080/12	81	15	070	345 10.0
0900	15-21N	169-56W	" "	20	1013	81	74	83	3	1	080/12	81	17	070	345 10.0
1000	15-30N	169-58W	" "	20	1013	81	74	83	2	0	080/12	81	17	070	345 10.0
1100	15-38N	170-08W	" "	20	1013	83	79	84	3	1	080/10	81	17	070	222 10.0
1200	15-25N	170-11W	" "	20	1013	83	79	84	3	1	080/10	81	17	070	222 10
1300	15-20N	170-20W	" "	20	1013	83	79	84	3	1	080/10	81	17	070	222 9.0
1400	15-14N	170-29W	" "	20	1013	83	79	84	3	1	080/18	81	17	070	222 10.0
1500	15-07N	170-32W	" "	20	1013	83	79	84	3	1	080/18	81	17	070	222 10.0
1600	15-04N	170-38W	" "	20	1013	83	79	84	3	1	080/18	81	17	070	222 10.0
1700	14-55N	170-40W	" "	20	1012	82	78	84	3	0	080/8	81	16	080	222 10
1800	14-37N	170-50W	" "	20	1010	82	77	84	6	5	080/8	81	14	080	222 10
1900	14-32N	171-00W	" "	20	1011	82	77	84	3	3	080/8	81	12	080	222 10
2000	14-29N	171-10W	" "	20	1011	82	77	84	4	0	080/8	81	12	080	222 10
2100	14-16N	171-18W	" "	20	1012	82	79	92	2	0	080/8	81	12	070	228 10
2200	14-10N	171-25W	" "	20	1012	82	79	92	2	9	080/8	81	13	070	228 10
2300	14-03N	171-34W	{ mist)	10	1012	82	79	92	9	9	080/8	81	12	070	227 10
2400	13-56N	171-41W	{	10	1012	82	79	92	8	8	080/8	81	12	065	228 10

REMARKS:

82 w/5 on  
fwd air.

XVc4

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63

DATE 27, Aug, Thursday

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TE SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	21-56N	159-51W	Partly	20	1017	78	69	75	1	0	070/5/4	79	12	080	120 10.0
0200	21-54N	159-45W	" "	70	1017	78	69	75	1	0	070/5/4	79	12	080	120 10.0
0300	21-49N	159-37W	" "	10	1017	78	69	75	1	0	070/5/4	79	12	080	112 10.0
0400	21-47N	159-29W	" "	10	1017	78	69	75	1	0	070/5/4	79	12	080	112 10.0
0500	21-47N	159-19W	" "	20	1017	78	69	75	1	0	070/5/4	79	12	080	112 9.6
0600	21-38N	159-10W	" "	20	1016	78	69	75	2	1	090/5/3	79	08	090	107 9.6
0700	21-34N	159-01W	" "	20	1016	79	68	71	2	1	090/4/3	80	08	090	112 9.6
0800	21-30N	158-52W	" "	20	1016	79	68	71	4	2	090/4/3	80	10	080	110 9.6
0900	21-24N	158-43W	" "	20	1017	79	72	72	1	0	Contaminated	80	13	060	105 9.5
1000	21-21N	158-33W	" "	23	1017	79	72	72	1	0	80	12	062	105 9.5	
1100	21-19N	158-21W	" "	20	1017	82	67	62	1	0	60m	"	Airs	" 9.5	
1200	21-17N	158-11W	" "	10	1017	81	61	61	10	11	11	"	60m	Var 9.5	
1300															
1400															
1500															
1600															
1700															
1800															
1900															
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955  
12-5-63